GRADING NOTES

1. A Geotechnical Engineer shall be employed by the owner and be on site during grading operations. All soils tests shall be verified by the Geotechnical Engineer concurrent with the grading and backfilling operations.
2. The grading contractor shall perform a complete grading and compaction operation as shown on the plans, stated in these notes, or reasonably implied there from, all in accordance with the plans and notes as interpreted by the Geotechnical Engineer.
3. The Contractor shall notify the Soils Engineer at least two days in advance of the start of the grading operation.
4. All areas shall be allowed to drain. All low points shall be provided with temporary ditches.
5. All filled places, including trench backfills, under buildings, proposed storm and sanitary sewer lines proposed right-of-way and/or paved areas, shall be compacted to 90% of maximum density as determine by the "Modified AASHTO T-180 Compaction Test," (A.S.T.M.-D-1557), or 95% maximum density as determined by the Standard Proctor Test AASHTO T-99. All filled places within public roadways shall be compacted from the bottom of the fill up to 90% maximum density as determined by the Modified AASHTO T-180 Compaction Test or 95% of maximum density as determined by the Standard Proctor Test AASHTO T-99, Method "C" (A.S.T.M.-D-698). All test shall be verified by a soils engineer concurrent with grading and backfilling operations. Ensure the moisture content of the soil in fill areas is to correspond to the compactive effort as defined by the Standard or Modified Proctor Test. Optimum moisture content shall be determined using the same test that was used to the placement of fill. Proof rolling may be required to verify soil stability at the discretion of the City of O'Fallon.
6. A sediment control plan that includes monitored and maintained sediment control basins and/or straw bales should be implemented as soon as possible. No graded area is to be allowed to remain bare without being seeded and mulched. Care should be exercised to prevent soil from damaging adjacent property and silting up existing downstream storm drainage systems. All erosion control systems shall be inspected and necessary corrections made within 24 hours of any rain storm resulting in 1/2 inch of rain or more.
7. Debris and foundation material from any existing on-site building or structure which is scheduled to be razed for this development must be disposed of off-site.
8. All trash and debris on site, either existing or from construction, must be removed and properly disposed of off-site.
9. Soft soil in the bottom and banks of any existing or former pond sites or tributaries or on any sediment basins or traps should be removed, spread out and permitted to dry sufficiently to be used as fill. None of this material should be placed in proposed public right-of-way locations or on any storm sewer locations.
10. Site preparation includes the clearance of all stumps, trees, bushes, shrubs, and weeds; the grubbing and removal of roots and other surface obstructions from the site; and the demolition and removal of any man-made structures. The material shall be properly disposed of off-site. Topsoil and grass in the fill areas shall be thoroughly disced prior to the placement of any fill. The Soils Engineer shall approve the discing operation.
11. Compaction equipment shall consist of tamping rollers, pneumatic-tired rollers, vibratory roller, or high speed impact type drum rollers acceptable to the Soils Engineer. The roller shall be designed so as to avoid the creation of a layered fill without proper blending of successive fill layers.
12. The Soils Engineer shall observe and test the placement of the fill to verify that specifications are met. A series of fill density tests will be determined on each lift of fill. Interim reports showing fill quality will be made to the Owner at regular intervals.
13. The Soils Engineer shall notify the Contractor of rejection of a lift of fill or portion thereof. The Contractor shall rework the rejected portion of fill and obtain notification from the Soils Engineer of its acceptance prior to the placement of additional fill.
14. All areas to receive fill shall be scarified to a depth of not less than 6 inches and then compacted in accordance with the specifications given below. Natural slopes steeper than 1 vertical to 5 horizontal to receive fill shall have horizontal benches cut into the slopes before the placement of any fill. The width and height to be determined by the Soils Engineer. The fill shall be loosely placed in horizontal layers not exceeding 8 inches in thickness and compacted in accordance with the specifications given below. The Soils Engineer shall be responsible for determining the acceptability of soils placed. Any unacceptable soils placed shall be removed at the Contractor's expense.
15. The sequence of operation in the fill areas will be fill, compact, verify acceptable soil density, and repetition of the sequence. The acceptable moisture contents during the filling operation are those at which satisfactory dry densities can be obtained.
16. The surface of the fill shall be finished so that it will not impound water. If at the end of a days work it would appear that there may be rain prior to the next working day, the surface shall be finished smooth. If the surface has been finished smooth for any reason, it shall be scarified before proceeding with the placement of succeeding lifts. Fill shall not be placed on frozen ground, nor shall filling operations continue when the temperature is such as to permit the layer under placement to freeze.
17. Developer must supply City construction inspectors with soil reports prior to or during site soil testing.
18. Fill and backfill should be compacted to the criteria specified in the following table:

CATEGORY	MINIMUM PERCENT COMPACTION
Fill in building areas below footings	90%
Fill under slabs, walks, and pavement	90%
Fill other than building areas	88%
Natural subgrade	88%
Pavement subgrade	90%
Pavement base course	90%

AS-BUILTS ADDED DECEMBER 2005.

GENERAL NOTES

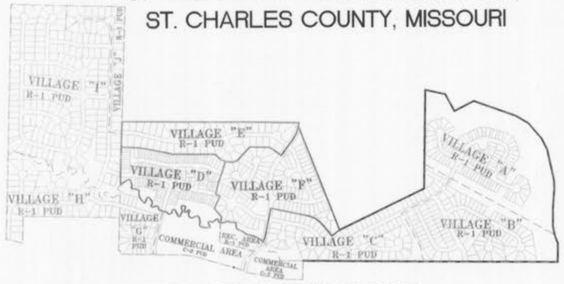
1. Underground utilities have been plotted from available information and therefore their locations shall be considered approximate only. The verification of the location of all underground utilities, either shown or not shown on these plans shall be the responsibility of the contractor, and shall be located prior to any grading or construction of the improvements.
2. All manhole tops & flowlines built without elevations furnished by the Engineer will be the responsibility of the sewer contractor.
3. Sanitary sewer pipe shall meet the following standards. A.S.T.M.-D-3034 SDR-35, with wall thickness compression joint A.S.T.M.-D-3212. An appropriate rubber seal waterstop as approved by the City of O'Fallon sewer district shall be installed between P.V.C. pipe and masonry structures.
4. All trench backfills under paved areas shall be granular backfill, and shall be Modified compacted to 90% of the maximum density as determined by the "AASHTO T-180 Compaction Test," (A.S.T.M.-D-1557). All other trench backfills may be earth material (free of large clods or stones). All trench backfills shall be water jetted.
5. All sanitary house connections have been designed so that the minimum vertical distance from the low point of the basement to the flow line of a sanitary sewer at the corresponding house connection is not less than the diameter of the pipe plus the vertical distance of 2 1/2 feet.
6. No area shall be cleared without the permission of the Project Engineer.
7. All P.V.C. sanitary sewer is to be SDR-35 or equal with clean 1/2" to 1" granular stone bedding uniformly graded. This bedding shall extend from 4" below the pipe to the springline of the pipe. Immediate backfill over pipe shall consist of same size "clean" or minus stone from springline of pipe to 12" above the top of pipe.
8. All soils test shall be verified by a Soils Engineer concurrent with the grading and backfilling operations.
9. Easements shall be provided for sanitary sewers, and all utilities on the Record Plat. See Record Plat for location and size of easements.
10. Maintenance and upkeep of the common ground area shall be the responsibility of the developer and/or successors.
11. All water lines shall be laid at least 10 feet horizontally, from any sanitary sewer, storm sewer, or manhole. 18" vertical clearance from outside of pipe to outside of pipe shall be maintained wherever water lines must cross sanitary sewers, laterals, or storm drains the water line shall be laid at such an elevation that the bottom of the water line is above the top of the drain or sewer. A full length of water pipe shall be centered over the sewer line to be crossed so that the joints will be equally distant from the sewer and as remote therefrom as possible. This vertical separation shall be maintained for that portion of the water line located within 10 feet horizontally, of any sewer or drain it crosses.
12. All PVC water pipe shall conform to A.S.T.M.-D-2241, SDR 21 Standard Specification for P.V.C. Pressure Pipe, 200 P.S.I. working pressure for water, with approved joint. All water mains should be 2 inches in diameter, or larger. The pipe should have a Minimum Pressure Rating (PR) of 200 psi or SDR-21 for 2" thru 10" and C906 DR 13.5 Class 130 for 12" and larger pipe with blue stripe to identify as water pipe. All water mains of PVC material shall be certified by NSF and listed in NFS Standard 61. NSF stands for NSF International which is an agency that certifies materials, such as pipe, valves, etc. for use in potable water systems among other things. Standards 61 is the (ANSI/NSF Standard 61) is a listing of certified drinking water system components. The Missouri DNR requires that product which come in contact with drinking water be listed in NSF Standard 61. If the pipe is NSF certified, it will have a stamp on the pipe that says "NSF-pw".
13. Disinfection and Bacteriological testing shall be per A.W.W.A. C 651-86.
14. Pressure testing shall be performed immediately following disinfection, the piping shall be pumped to a pressure (at the lowest point in the project) of 150 PSI or higher where the working pressure is higher than 150 PSI as determined by the District. In such cases, the test pressure shall be as specified by the District and two pressure tests shall be conducted. The first test shall be with the fire hydrant auxiliary valves open and be to 150 PSI. The second test shall be with the fire hydrant auxiliary valves closed and be to the higher pressure as directed by the District. All pumping equipment and pressure gauges shall be provide by the contractor. After achieving the test pressure, the piping shall be left closed for a period of two (2) hours. At the end of this time the pressure drop shall not exceed 2 PSI. In addition, if the pressure appears, in the judgment of the District's representative, to be continuing to drop, the test shall be continued for another two (2) hours and if any further drops occur, the test shall be considered a failure. If the pressure test fails, the contractor will be required to find and correct the source of the leakage. If this requires drainage of the pipeline, when the leakage is corrected, the piping must be re-disinfected and the pressure tested again until satisfactory results are achieved.
15. Water lines, valves, sleeves, meters, and fittings shall meet all specifications and installation requirements of The City of O'Fallon.
16. All water hydrants and valves shall be ductile iron and installed in accordance with plans and details. All ductile iron pipe for water mains shall conform to A.W.W.A. Specifications C-106 and/or C-108. The ductile iron fittings shall conform to A.W.W.A. Specification CC-110. All rubber gasket joints for water ductile iron pressure pipe and fittings shall conform to A.W.W.A. Specification C-111.
17. All sanitary manholes shall be waterproofed with 31 mill waterproofing on the exterior in accordance with Missouri Department of Natural Resources specifications 10 CSR20-8.120 (7)E and City of O'Fallon.
18. Brick will not be used in the construction of sanitary sewer manholes.
19. All pipes shall have positive drainage through manholes. No flat base structures are allowed.
20. The City of O'Fallon shall be notified 48 hours prior to construction for coordination and inspection.
21. Gas, water and other underground utilities shall not conflict with the depth or horizontal location of existing or proposed sanitary or storm sewers, including house laterals.
22. All existing site improvements disturbed, damaged or destroyed shall be repaired or replaced to closely match pre-construction conditions.
23. The contractor shall prevent all storm, surface water, mud and construction debris from entering the existing sanitary sewer system.
24. All construction and materials shall conform to the current construction standards of the City of O'Fallon.
25. All sanitary and storm sewer trench backfills shall be water jetted. Granular backfill will be used under pavement areas.
26. All existing areas disturbed during construction of the off-site sanitary sewer line shall be seeded and mulched to prevent erosion.
27. All sanitary sewer laterals shall be a minimum of 4" in diameter per City of O'Fallon.
28. All storm inlets must be installed with a 5/8" trash bar across the opening.
29. Concrete pipe for storm sewers shall be Class III, A.S.T.M. C-76 with a minimum diameter of 12" except in the R.O.W. it shall be 15".
30. The ADS N-12WT pipe shall have a smooth interior wall.
31. Concrete pipe joints shall be MSD type "A" approved compression-type joints and shall conform to the requirements of the specifications for joints for circular concrete sewer and culvert pipe, using flexible, watertight, rubber-type gaskets (A.S.T.M.-C-443). Band-type gaskets depending entirely on cement for adhesion and resistance to displacement during jointing shall not be used.
32. When HDPE pipe is used, City of O'Fallon specifications or manufacturers specifications, which ever are more stringent, shall be followed.
33. The use of High Density Polyethylene Corrugated pipe, ADS N-12WT or equal will be permitted as an acceptable alternative to reinforced concrete pipe, R.C.P. Class 3 shall be used for all storm pipe greater than 36". Pipe shall meet A.S.T.M.-D-2321 and A.A.S.H.T.O. M-294-291.
34. All flared end sections and inlet structures will be concrete.
35. All storm sewer pipe installed in the Public Right-of-Way shall be Reinforced concrete Class III pipe.
36. All concrete pipe or ADS N-12WT pipe shall be installed with "O-Ring" Rubber type gaskets per M.S.D. standard construction specifications or manufacturer.
37. Blow-off hydrants and water meters shall not be located in any pavement or hard surfaced area including, but not limited to, driveways, sidewalks, and streets. Since the location of all such areas is not shown on this plan all costs to relocate any blow-off hydrants and water meters from any pavement or hard surfaced areas shall be borne by the Developer or the Builders.

AN AS-BUILT SET OF IMPROVEMENT PLANS FOR

HYLAND GREEN

VILLAGES D, E AND F

A TRACT OF LAND BEING PART OF FRACTIONAL SECTIONS 17 AND 18, TOWNSHIP 47 NORTH, RANGE 3 EAST OF THE FIFTH PRINCIPAL MERIDIAN, ST. CHARLES COUNTY, MISSOURI



VILLAGE LOCATION MAP

NOT TO SCALE

REFERENCE BENCHMARK

ELEV (USGS DATUM) 459.35 CUT SQUARE ON THE NORTHWEST CORNER OF THE HEADWALL OF A 4' x 7' CONCRETE BOX. MISSOURI STATE HIGHWAY P STATION 506+64 — 20.5' LEFT

SITE BENCHMARK

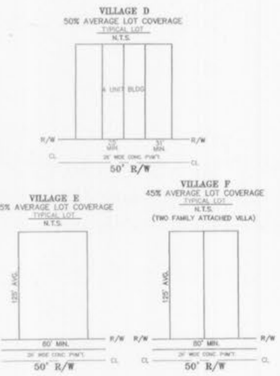
ELEV=540.64 FOUND IRON PIPE AT THE SOUTHEAST CORNER OF SUBJECT PROPERTY.

LEGEND

C.I.	CURB INLET	☼	STREET LIGHT
D.C.I.	DOUBLE CURB INLET	582	EXISTING CONTOUR
A.I.	AREA INLET	582	PROPOSED CONTOUR
M.H.	MANHOLE	S	STREET SIGN
F.E.	FLARED END SECTION	W	WATER VALVE
E.P.	END PIPE		STORM SEWER
C.P.	CONCRETE PIPE		SANITARY SEWER
R.C.P.	REINFORCED CONCRETE PIPE		FIRE HYDRANT
C.M.P.	CORRUGATED METAL PIPE		SEWER MAIN
C.I.P.	CAST IRON PIPE		
P.V.C.	POLY VINYL CHLORIDE (PLASTIC)		
C.O.	CLEAN OUT		

GENERAL NOTES (CONT.)

38. All creek crossings shall be grouted rip-rap as directed by District inspectors. (All grout shall be high slump ready-mix concrete.)
39. Existing sanitary sewer service shall not be interrupted.
40. Pre-manufactured adapters shall be used at all PVC to DIP connections. Rubber boot/Mission-type couplings will not be allowed.
41. All utilities shall be located underground.
42. Storm and sanitary sewer pipe place at less than 1% slope shall have field verification of pipe slope before backfilling.
43. Any permits, licenses, easements, or approvals required to work on public or private properties or roadways are the responsibility of the developer.
44. No slopes shall exceed 3(H):1(V).
45. Driveway locations shall not interfere with the sidewalk curb ramps.
46. City approval of the Construction plans does not mean that Single Family dwelling units can be constructed on lots without meeting the minimum building setbacks as required by the Zoning Code.
47. Sidewalks and sidewalk curb ramps shall be constructed in accordance with the current approved "Americans with Disabilities Act Accessibility Guidelines" (A.D.A.A.G.). If any conflict occurs between the above information and the plans the A.D.A.A.G. shall take precedence and the contractor prior to any construction shall notify the Project Engineer.
48. Contractor shall assume complete responsibility for controlling all siltation and erosion of the project area. The contractor shall use whatever means necessary to control erosion and siltation including, but not limited to, staked straw bales and/or siltation fabric fences (possible methods of control are detailed in the plan). Control shall commence with grading and be maintained throughout the project until acceptance of the work by the owner and/or the City of O'Fallon. The contractors responsibilities include all design and implementation as required to prevent erosion and the depositing of silt. The Owner and/or the City of O'Fallon may at their option direct the contractor in his methods as deemed fit to protect property and improvements. Any depositing of silts or mud on new or existing pavement or in new or existing storm sewers or swales shall be removed after each rain and affected areas cleaned to the satisfaction of the Owner and/or City of O'Fallon.
49. Only eyes are to be used for lateral connection to sanitary mains. Tees may be used only if approved by the City of O'Fallon.
50. All paving to be in accordance with St. Charles County Standards and Specifications except as modified by the City of O'Fallon ordinances.
51. All sign post, backs, bracket arms, street signs and traffic signals shall be painted black using Carboline Rustbond Penetrating Sealer SG and Carboline 133 HB paint (or equivalent as approved by The City of O'Fallon and/or MoDOT.)
52. All sign locations and sizes must be approved separately through the Planning Division.
53. Any proposed pavilions or playground areas will need a separate permit from the Building Division.
54. No foundation will be allowed within 10' of a sanitary line or 5' of a storm line unless the line runs along the side yard.
55. All sewer structures will be precast concrete. Brick will not be used.
56. All proposed retaining wall and fencing requires a separate permit issued through the Planning division.



TYPICAL LOT SIZES

NOT TO SCALE

VEGETATIVE ESTABLISHMENT
For Urban Development Sites
APPENDIX A

Seeding Rates:
Permanent:
Tall Fescue — 80 lbs./ac.
Smooth Brome — 100 lbs./ac.
Combined Fescue @ 40 lbs./ac. and Brome @ 50 lbs./ac.
Temporary:
Wheat or Rye — 90/120 lbs./ac. (2.0/2.5 lbs. per 1000 square feet)
Oats — 80 lbs./ac. (2 lbs. per 1000 square feet)
Seeding Periods:
Fescue or Brome — February 1 to June 1
August 1 to November 1
Wheat or Rye — January 1 to June 1, July 15 to November 15
Oats — February 1 to June 1, August 1 to October 1
Mulch Rates: 70-115 lbs. per 1,000 sq. feet (3000-5000 lbs. per acre)
Fertilizer Rates:

Nitrogen	30 lbs./ac.	
Phosphate	60 lbs./ac.	
Potassium	30 lbs./ac.	
Lime	600 lbs./ac.	ENM*

* ENM = effective neutralizing material as per State evaluation of quarried rock.

CALL BEFORE YOU DIG!
1-800-DIG-RITE

STORM SEWER MEASUREMENTS

THE EXISTING SEWER LENGTHS, SIZES, FLOWLINES, DEPTHS OF STRUCTURES AND SEWERS AND LOCATIONS WITH RESPECT TO EXISTING OR PROPOSED EASEMENTS HAVE BEEN MEASURED. THE RESULTS OF THOSE MEASUREMENTS ARE SHOWN ON THIS SET OF FINAL MEASUREMENT PLANS.

ALL PUBLIC SEWERS ARE LOCATED WITHIN DESIGNATED EXISTING OR PROPOSED EASEMENTS EXCEPT AS FOLLOWS:

STATE OF MISSOURI
DARREL R. OAKLEY
NUMBER LS-2385
REGISTERED LAND SURVEYOR

SIGNED: _____ DATE 11/17/05
P.E./L.S.

LOCATION MAP

NOT TO SCALE

DEVELOPMENT NOTES

1. AREA OF SITE: 62.50 ACRES
2. EXISTING ZONING: R-1 PUD (CITY OF O'FALLON)
3. DEVELOPER/OWNER: HYLAND GREEN L.L.C.
   248 CAMELOT
   ST. CHARLES, MO 63304
4. RESIDENTIAL LOT DATA — 271 LOTS:

   VILLAGE D
   130 LOTS
   BUILDING LINE SETBACK 25'
   SIDE YARD SETBACK 0', & 6'
   REAR YARD SETBACK 10'
   MINIMUM LOT WIDTH 25' AND 30'

   VILLAGE E
   51 LOTS
   BUILDING LINE SETBACK 25'
   SIDE YARD SETBACK 6'
   REAR YARD SETBACK 25'
   MINIMUM LOT WIDTH 80'

   VILLAGE F
   90 LOTS
   BUILDING LINE SETBACK 25'
   SIDE YARD SETBACK 6'
   REAR YARD SETBACK 20'
   MINIMUM LOT WIDTH 40'

5. OVERALL PARKING SPACE REQUIREMENTS:
   R-1 PUD AREA REQUIRES 2 OFF STREET PARKING SPACES PER DWELLING
   271 UNITS/LOTS x 2 = 542 SPACES REQUIRED
   542 SPACES PROPOSED (2 GARAGE SPACES)
6. STREET TREES & TREE PRESERVATION ORDINANCE REQUIREMENTS:

   OVERALL TREE PRESERVATION
   EXISTING TREES = 106.2 ACRES
   TREES REMOVED = 79.6 ACRES
   TREES SAVED = 26.6 ACRES
   TREE PRESERVATION TREES TO BE RETAINED: 106.2 ACRES x 20% = 21.2 ACRES
   21.2 ACRES - 26.2 ACRES (SAVED) = -5.0 ACRES
   (NO TREES REQUIRED TO BE PLANTED)

   TREE PRESERVATION ORDINANCE REQUIREMENTS PER VILLAGES D, E, & F
   EXISTING TREES = 39.19 ACRES
   TREES REMOVED = 36.64 ACRES
   TREES SAVED = 2.55 ACRES
   TREE PRESERVATION TREES TO BE RETAINED:
   ACRES 39.19 ACRES x 20% = 7.84 ACRES
   7.84 ACRES - 2.55 ACRES (SAVED) = 5.29 ACRES
   (NO TREES REQUIRED TO BE PLANTED PER OVERALL CALCULATIONS)

   STREET TREES REQUIRED:
   1 TREE PER LOT/UNIT AND TWO TREES PER CORNER LOT
   238 UNITS/LOTS = 238 TREES
   33 CORNER LOTS/UNITS = 66 TREES
   1 TREE PER 50' ALONG BOTH SIDES OF KOCH ROAD = 35 TREES
   0 + 238 + 66 + 35 = 339 REQUIRED
   400 PROPOSED TREES TO BE PLANTED AROUND STREETS, BASINS AND AMENITIES
7. THIS TRACT IS IN AND SERVED BY:
   CITY OF O'FALLON SEWER
   CITY OF O'FALLON WATER
   AMEREN UE
   CENTURYTEL
   LACLEDE GAS COMPANY
   O'FALLON FIRE PROTECTION DISTRICT
   FORT ZUMWALT SCHOOL DISTRICT
   O'FALLON POST OFFICE
8. MAXIMUM GRADED SLOPES WILL BE 3:1 UNLESS NOTED OTHERWISE AND APPROVED BY THE CITY OF O'FALLON AND THE SOILS ENGINEER.
9. THE PROJECT IS IN COMPLIANCE WITH ARTICLE 26 OF THE CITY OF O'FALLON ZONING CODE.
10. A PORTION OF THIS SITE IS IN THE 100 YEAR FLOOD AS SHOWN ON FIRM MAP PANEL NUMBER 29183C0230F DATED MARCH 17, 2003.
11. THE PROPOSED DEVELOPER SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE DEPT. OF NATURAL RESOURCES, THE ARMY CORPS OF ENGINEERS, CITY OF O'FALLON AND ST. CHARLES COUNTY.
12. OVERHEAD ELECTRIC WITHIN THE AREA OF KOCH ROAD THAT IS TO BE VACATED WILL BE PLACED UNDERGROUND.
13. PLATTING WILL BE PER VILLAGE DESIGNATION. VILLAGES D, E, & F WILL BE CONSTRUCTED IN ONE PHASE.
14. AN UNDISTURBED DRAINAGE EASEMENT WILL BE PLACED ALONG ALL EXISTING DITCHES THAT ARE TO REMAIN AND PLACED IN COMMON GROUND. ANY DISTURBANCE WITHIN THESE DRAINAGE EASEMENTS WILL REQUIRE BANK STABILIZATION. THESE EASEMENTS WILL BE DEDICATED TO THE CITY OF O'FALLON WITH THE RECORD PLAT.

SHEET INDEX

PREPARED FOR: HYLAND GREEN L.L.C.
248 CAMELOT
ST. CHARLES, MO 63304
314-568-3072

HYLAND GREEN
VILLAGES D, E & F

REVISIONS

7-25-06	City Comments
2-27-07	City Comments
3-29-07	City Comments

BAX
ENGINEERING
PLANNING
SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636-928-5552
FAX 928-1718

DEC. 30, 2005 — DATE
98-10293A — PROJECT NUMBER
1 OF 12 — SHEET OF
10293ASB-DEF.DWG — FILE NAME
CLM/SAZ — DRAWN
RKC DRO — DESIGNED CHECKED

Hyland Green D, E, F As builts
1/12

Hyland Green D,E,F asbuilts 2/12

AS-BUILT SITE PLAN

HYLAND GREEN VILLAGES D, E & F

98-10293A OCTOBER 2005

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF THE IMPROVEMENTS.

Hyland Green D, E, F as builts 3/12

AS-BUILT SITE PLAN

HYLAND GREEN VILLAGES D, E & F

98-10293A OCTOBER 2005

AS-BUILTS ADDED DECEMBER 2005

GRAPHIC SCALE

(IN FEET)
1 inch = 50 ft.

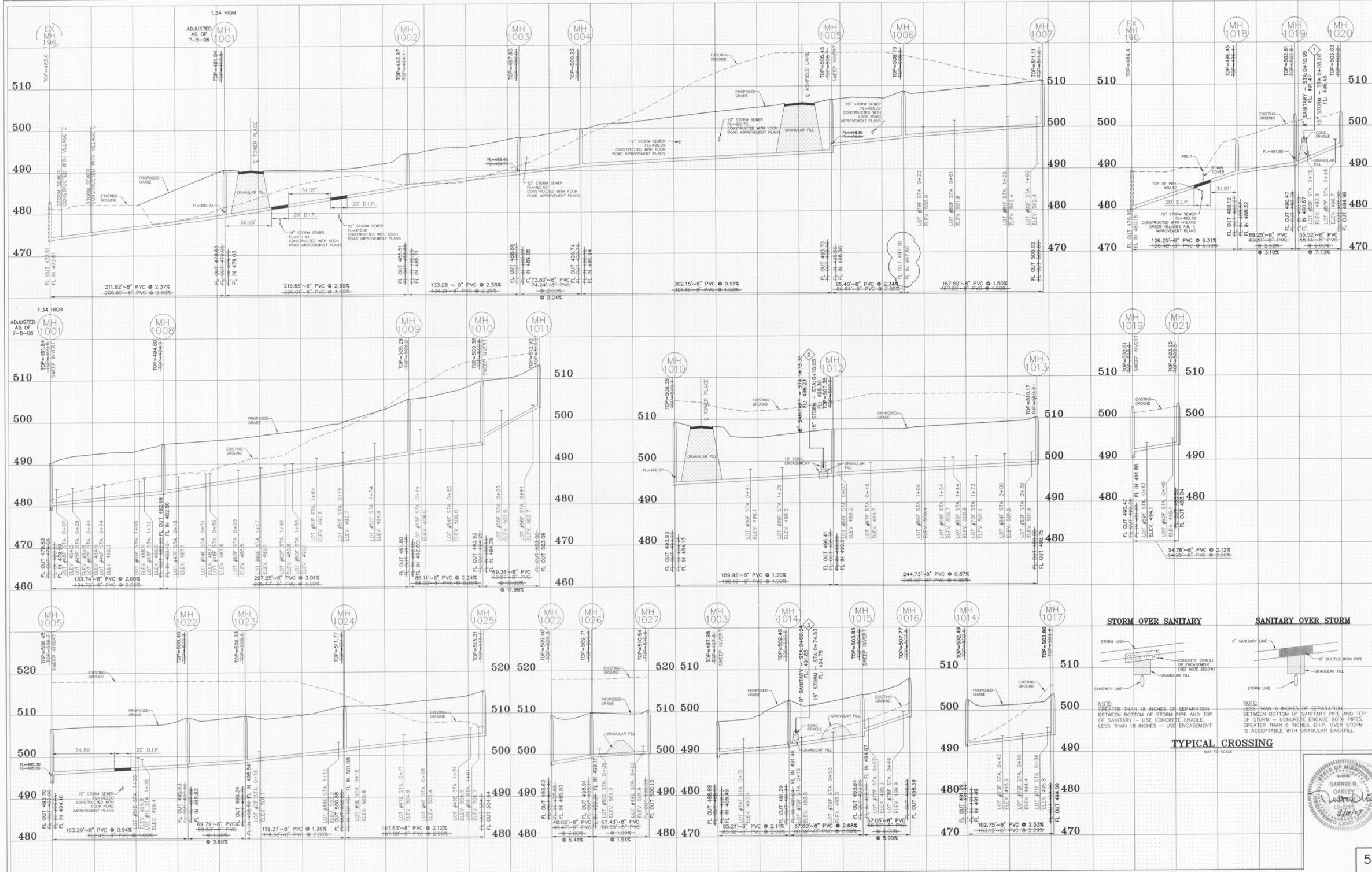
UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF THE IMPROVEMENTS.

STATE OF MISSOURI
DARREL R. OAKLEY
LS-2005
REGISTERED LAND SURVEYOR

Hyland Green D, E, F asbuilts
4/12

HYLAND GREEN
VILLAGES D, E & F

98-10293A OCTOBER 2005



TYPICAL CROSSING

NOT TO SCALE

STORM OVER SANITARY

STORM LINE
CONCRETE CRADLE OR ENCASEMENT (SEE NOTE BELOW)
GRANULAR FILL
SANITARY LINE

NOTE:
GREATER THAN 18 INCHES OF SEPARATION BETWEEN BOTTOM OF STORM PIPE AND TOP OF SANITARY – USE CONCRETE CRADLE. LESS THAN 18 INCHES – USE ENCASEMENT

SANITARY OVER STORM

8" SANITARY LINE
8" DUCTILE IRON PIPE
GRANULAR FILL
STORM LINE

NOTE:
LESS THAN 6 INCHES OF SEPARATION BETWEEN BOTTOM OF SANITARY PIPE AND TOP OF STORM – CONCRETE ENCASE BOTH PIPES. GREATER THAN 6 INCHES, D.I.P. OVER STORM IS ACCEPTABLE WITH GRANULAR BACKFILL.

STATE OF MISSOURI DARREL R. OAKLEY LS-2285 REGISTERED LAND SURVEYOR 9/10/07

AS-BUILTS ADDED DECEMBER 2005

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF THE IMPROVEMENTS.

SCALE: VERTICAL = 1"=10' HORIZONTAL = 1"=50'

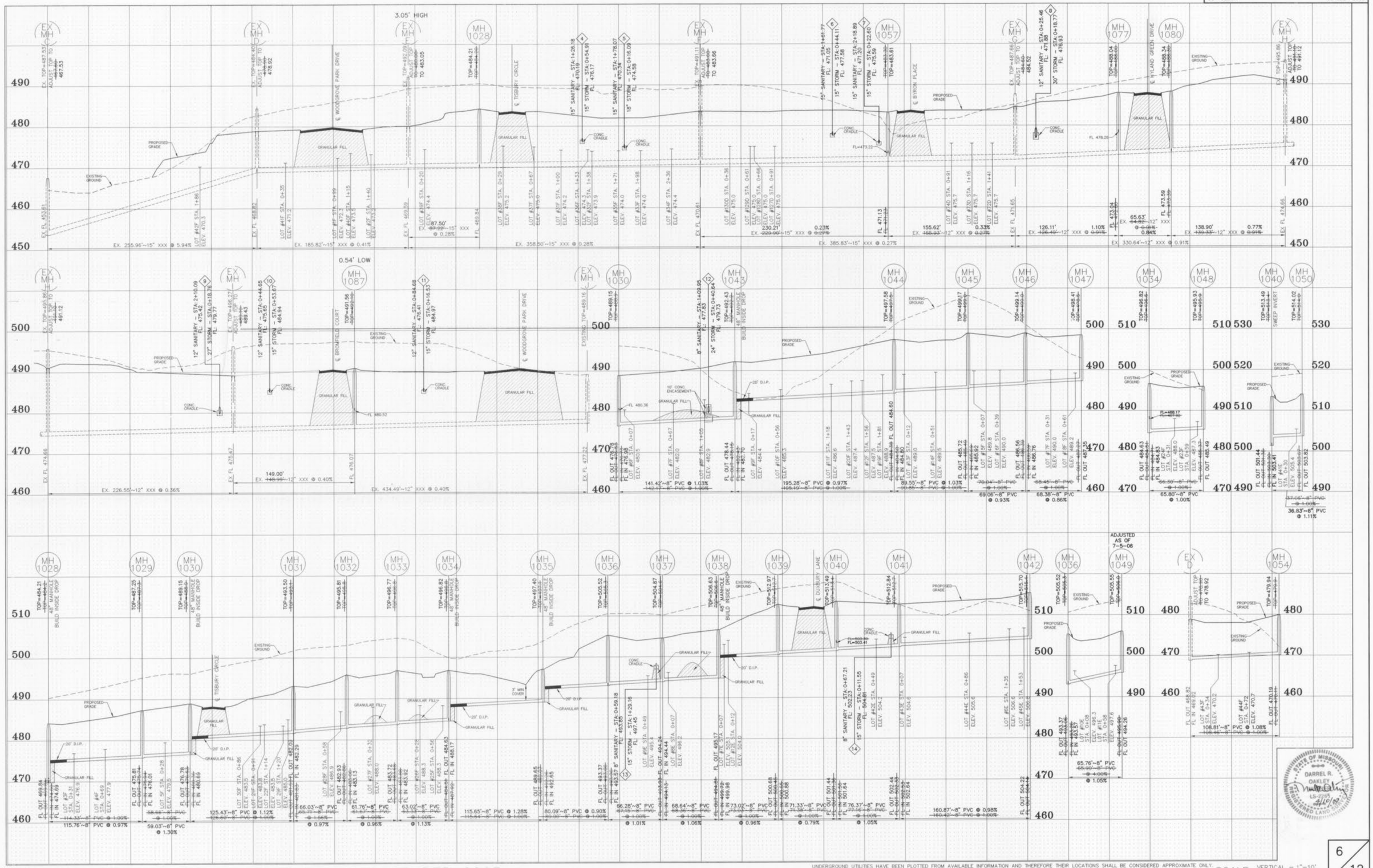
Hyland Green D, E, F as builts 5/12

AS-BUILT SANITARY SEWER PROFILES

HYLAND GREEN VILLAGES D, E & F

98-10293A

OCTOBER 2005



AS-BUILTS ADDED DECEMBER 2005

UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE THEIR LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATION OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION OF THE IMPROVEMENTS.

SCALE: VERTICAL = 1"=10'
HORIZONTAL = 1"=50'

6/12

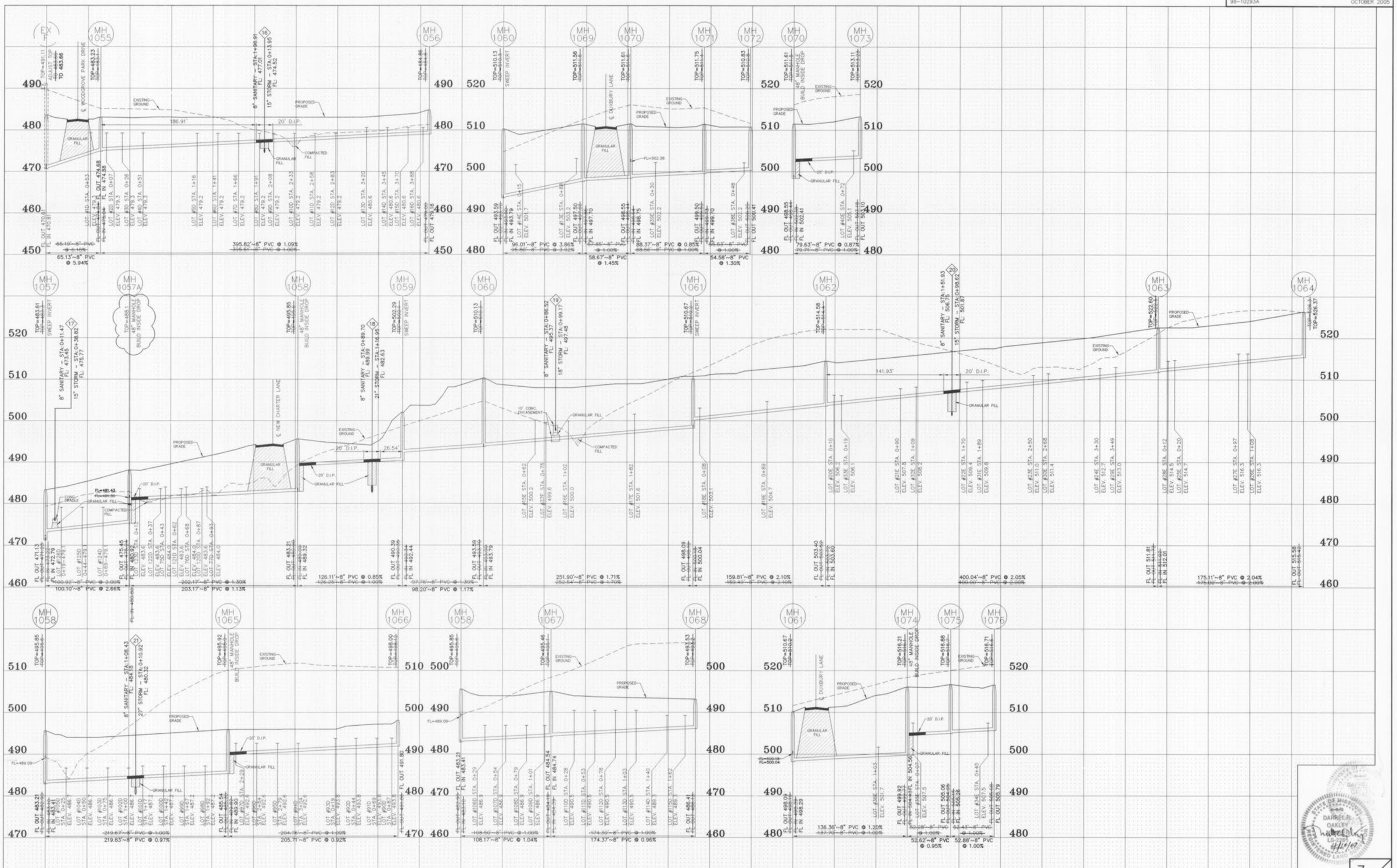
Hyland Green D, E, F as builts
6/12

AS-BUILT SANITARY SEWER PROFILES

HYLAND GREEN VILLAGES D, E & F

98-10293A

OCTOBER 2005



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SCALE: VERTICAL = 1"=10'
HORIZONTAL = 1"=50'

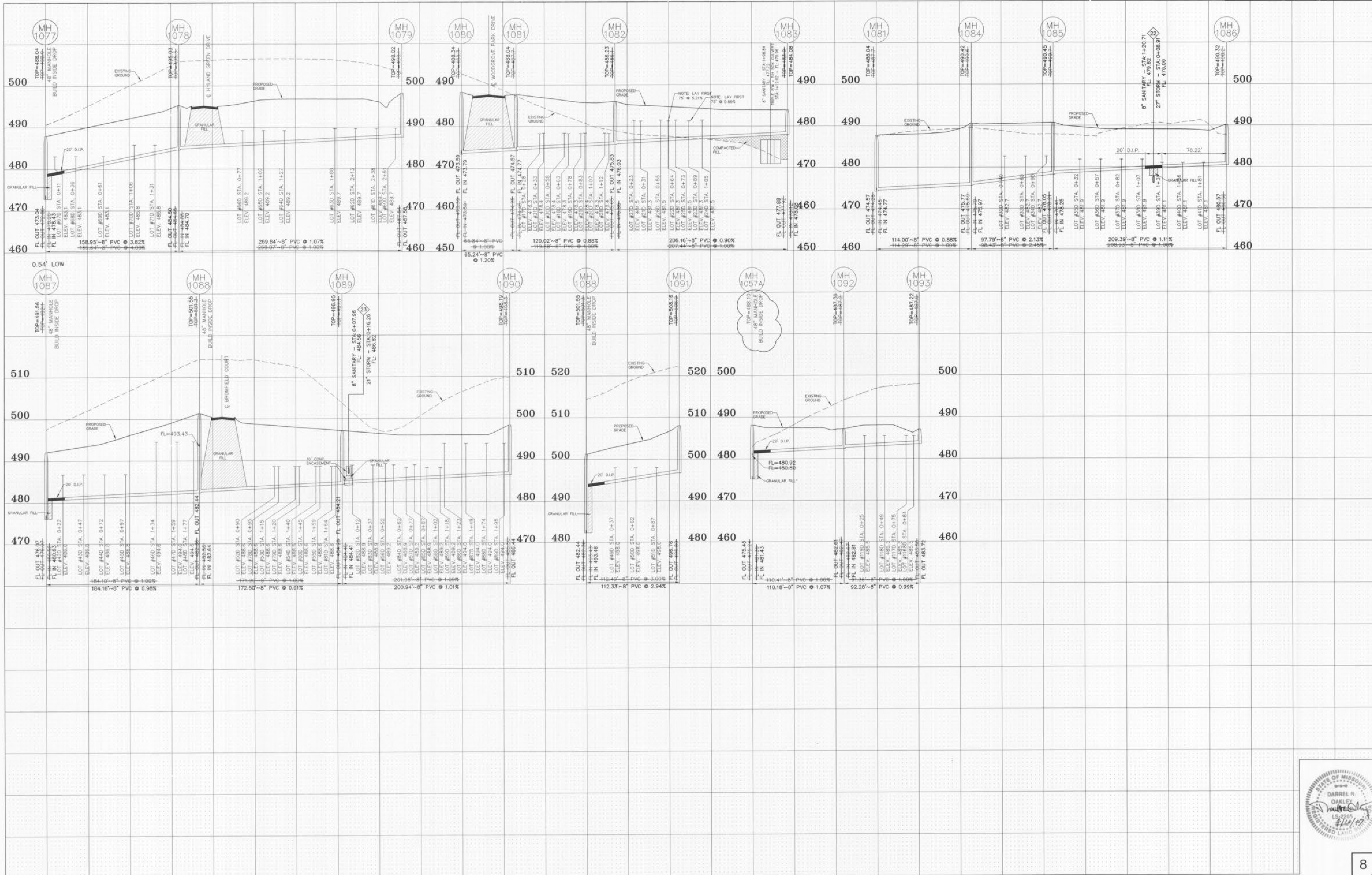
Hyland Green D, E, F As builts 7/12

AS-BUILT SANITARY SEWER PROFILES

HYLAND GREEN
VILLAGES D, E & F

98-10293A

OCTOBER 2005



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SCALE: VERTICAL = 1"=10' HORIZONTAL = 1"=50'

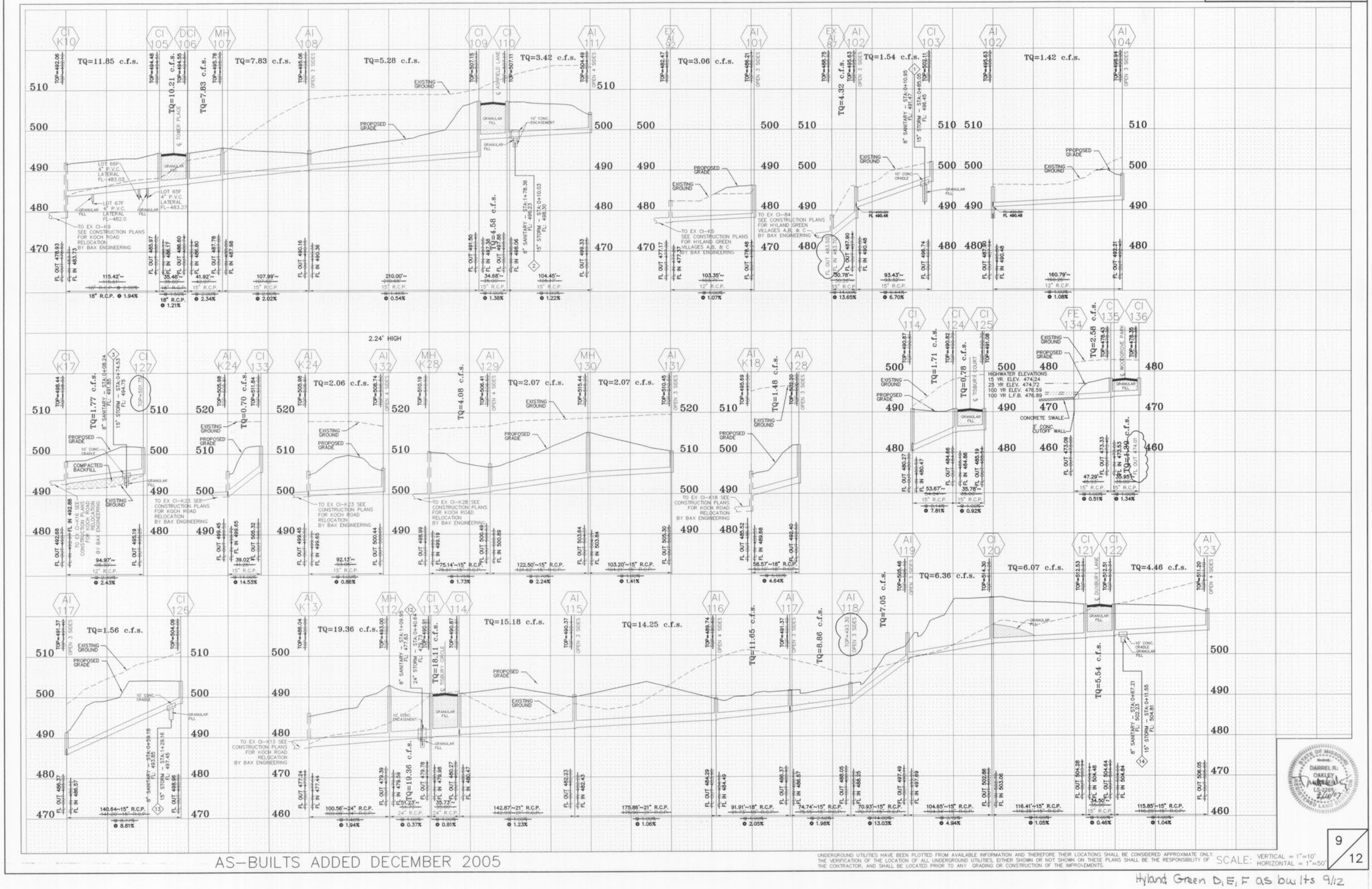
Hyland Green D, E, F as builts 8/12

AS-BUILT STORM SEWER PROFILES

HYLAND GREEN
VILLAGES D, E & F

98-10293A

OCTOBER 2005



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SCALE: VERTICAL = 1"=10'
HORIZONTAL = 1"=50'

9/12

Hyland Green D, E, F as builts 9/12

AS-BUILT STORM SEWER PROFILES

HYLAND GREEN
VILLAGES D, E & F

98-10293A

OCTOBER 2005

STATE OF MISSOURI — DARREL R. OAKLEY — REGISTERED LAND SURVEYOR

AS-BUILTS ADDED DECEMBER 2005

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SCALE: VERTICAL = 1"=10'
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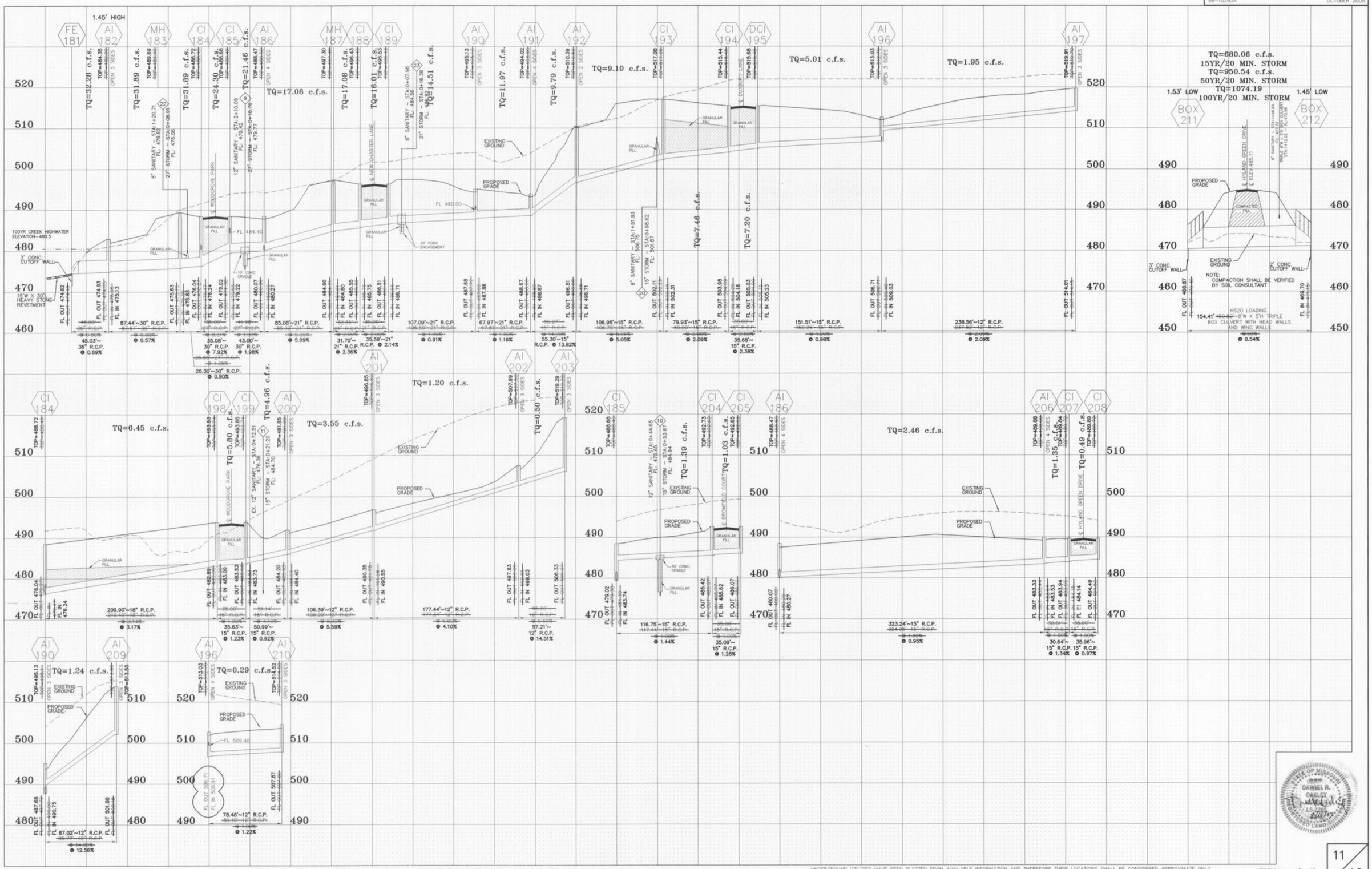
Hyland Green D, E, F as builts 10/12

AS-BUILT STORM SEWER PROFILES

HYLAND GREEN VILLAGES D, E & F

98-10293A

OCTOBER 2005



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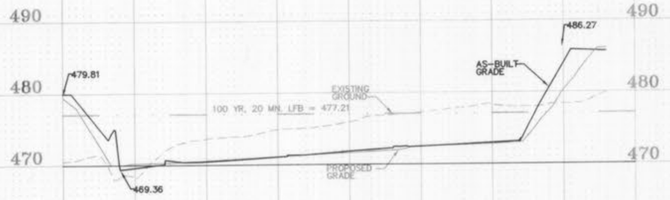
SCALE: VERTICAL = 1"=10'
HORIZONTAL = 1"=50'

Hyland Green D, E, F as builts 11/12

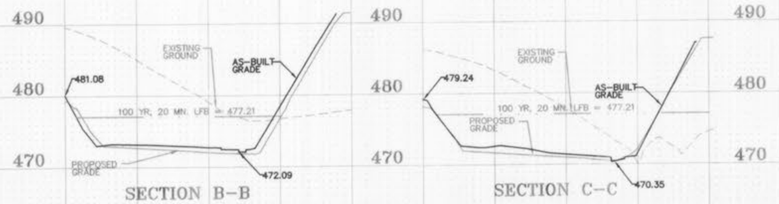
AS-BUILT DETENTION BASIN CROSS SECTIONS

HYLAND GREEN
VILLAGES D, E & F

98-10293A — OCTOBER 2005



SECTION A–A

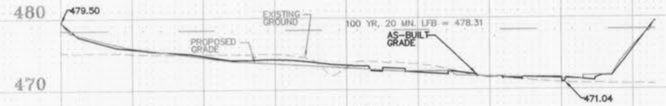


SECTION B–B

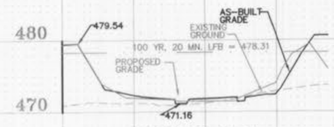
SECTION C–C

BASIN I

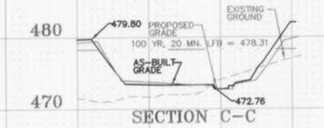
TOP OF BERM = 478.50
BOTTOM OF BASIN = 469.29
100 YEAR L.F.B. = 477.17



SECTION A–A



SECTION B–B

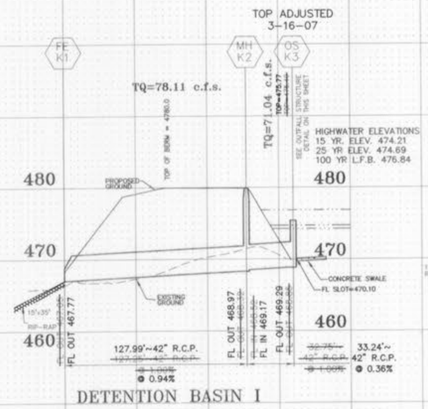


SECTION C–C

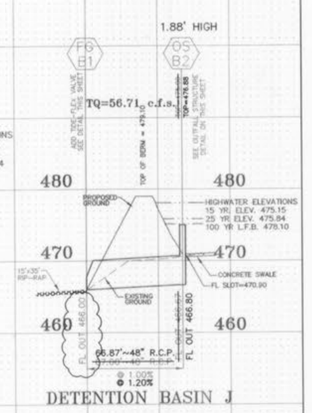
BASIN J

TOP OF BERM = 479.50
BOTTOM OF BASIN = 471.03
100 YEAR L.F.B. = 478.31

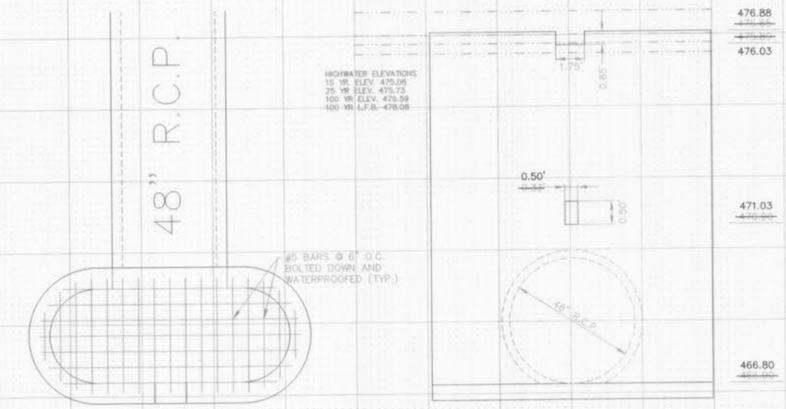
TOP ADJUSTED 3-16-07



DETENTION BASIN I



DETENTION BASIN J

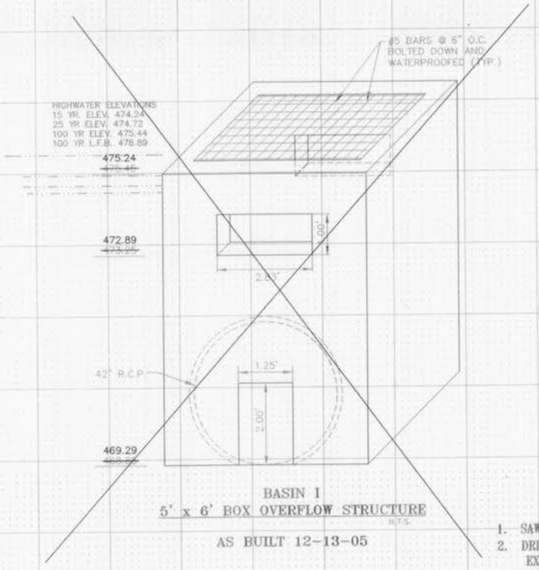


TOP VIEW
N.T.S.

BASIN J
OVERFLOW STRUCTURE
N.T.S.

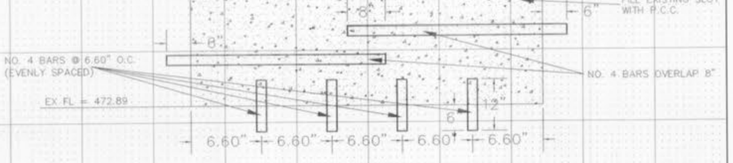
The Overflow Structure is to be a Standard Double Untrapped Street Inlet Precast Concrete (without top). See M.S.D. Detail 35. The bottom must be constructed to the correct height so that no brick will be used.

(See Detention Calculations)

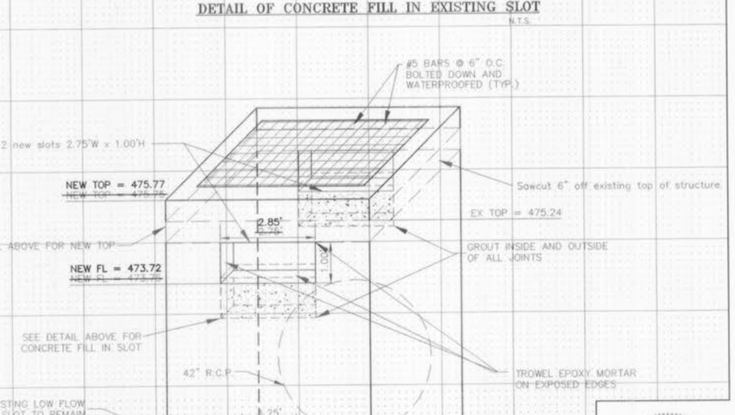


BASIN I
5' x 6' BOX OVERFLOW STRUCTURE
N.T.S.

AS BUILT 12-13-05



DETAIL OF NEW CAST IN PLACE CONCRETE TOP
N.T.S.



BASIN I
5' x 6' BOX OVERFLOW STRUCTURE
MODIFIED 1-23-07
N.T.S.

DETAIL OF CONCRETE FILL IN EXISTING SLOT
N.T.S.

CONSTRUCTION NOTES

1. SAWCUT 6" FROM EXISTING TOP OF STRUCTURE.
2. DRILL & GROUT #4 DOWEL BARS 12" O.C. 6" INTO EXISTING STRUCTURE AS SHOWN TO SPLICE NEW TOP TO EXISTING STRUCTURE.
3. POUR NEW CONCRETE 12" THICK
4. GROUT SAWCUT JOINT INSIDE AND OUTSIDE.
5. FILL EXISTING UPPER FLOW SLOTS WITH P.C.C. (SEE DETAIL)
6. TROWEL EPOXY MORTAR ON ALL EXPOSED EDGES OF NEW UPPER FLOW SLOTS

STATE OF MISSOURI
DARREL R. OAKLEY
LS-2267
REGISTERED LAND SURVEYOR

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SCALE: VERTICAL = 1"=10'
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12/12

AS-BUILTS ADDED DECEMBER 2005

Hyland Green D,E,F as builts
12/12