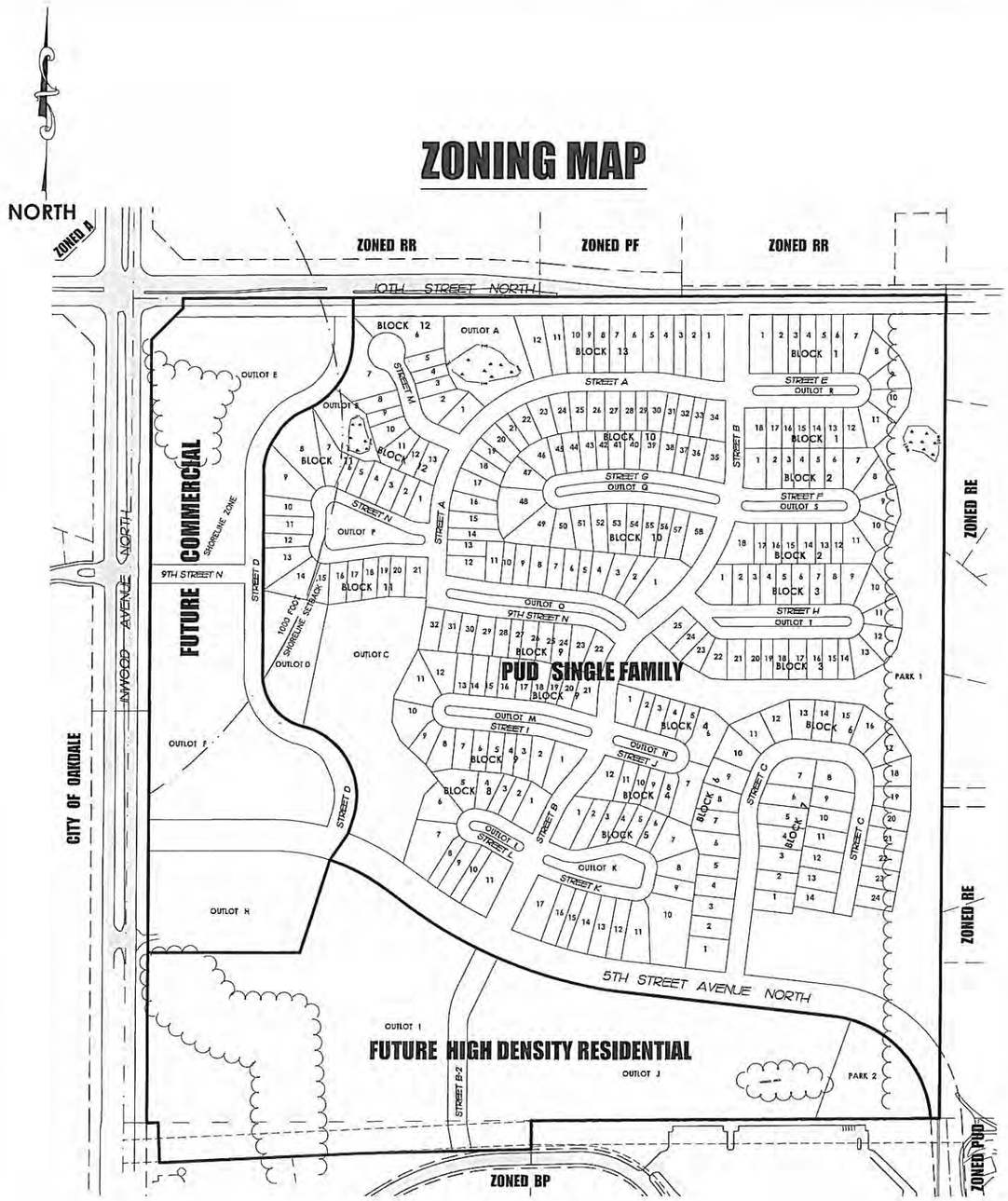
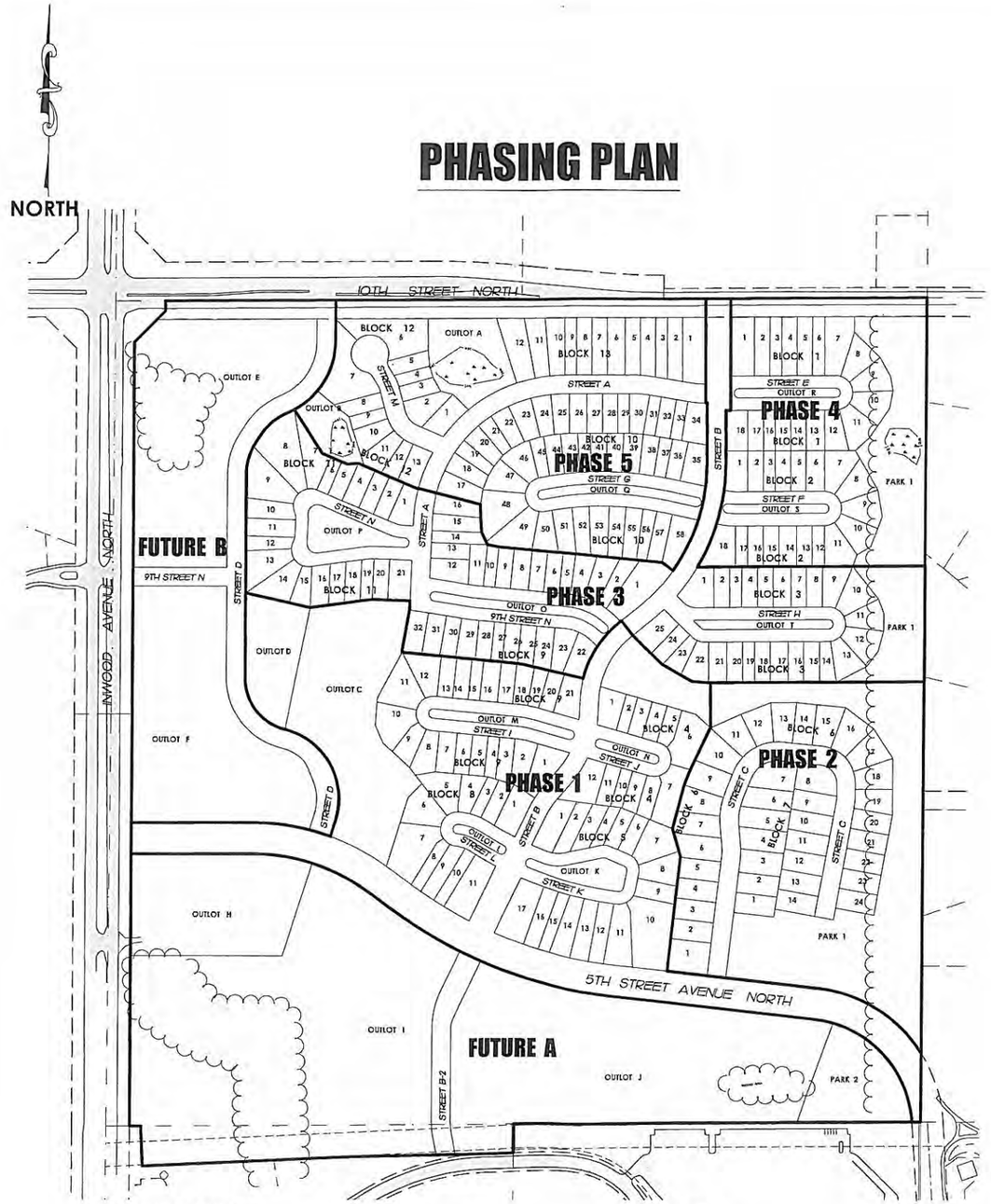
ZONING MAP



ZONING AREAS

PUD SINGLE FAMILY	102.81 ACRES
FUTURE COMMERCIAL	23.54 ACRES
FUTURE HIGH DENSITY RESIDENTIAL	30.83 ACRES

PHASING PLAN



PHASING AREAS

PHASE 1	32.28 ACRES
PHASE 2	17.42 ACRES
PHASE 3	21.48 ACRES
PHASE 4	12.75 ACRES
PHASE 5	20.29 ACRES
FUTURE A	34.84 ACRES
FUTURE B	18.12 ACRES

NOTE

PHASING MAY CHANGE BASED ON MARKET DEMAND

E. G. RUD & SONS, INC.
Professional Land Surveyors
www.egrud.com
6776 Lake Drive NE, Suite 110
Lino Lakes, MN 55014
Tel. (651) 361-8200 Fax (651) 361-8701

I hereby certify that this survey, plan, or report was prepared by me or under my direct supervision and that I am a duly Registered Land Surveyor under the laws of the State of Minnesota.

DANIEL W. ODERMILLER
Date: 02/18/15 License No. 25341

DRAWN BY: JEN	JOB NO: 13777PP	DATE: 10/10/14
CHECK BY: DWO	SCANNED ☐	

NO.	DATE	DESCRIPTION	BY
1	02/18/15	Revised Layout	JEN
2			
3			

GRAPHIC SCALE
300 0 100 200 400 800
(IN FEET)
1 inch = 200 ft.

HANS HAGEN HOMES
941 NE Hillwind Rd., Suite 300
Fridley, MN 55432

INWOOD
Lake Elmo, Minnesota

ZONING/PHASING

4 of 25

13777PP

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NORTH

OPEN AREA PER CALCULATIONS

PROPERTY DESCRIPTION:

The West Half of the Southeast Quarter of Section 33, Township 29 North, Range 21 West, lying north of the north right of way line as shown on State Highway Right-of-way Plat No. 4 of 12, State Project 8282 (94=392) 902, Washington County, Minnesota.
(Abstract)
AND
The Northeast Quarter of Section 33, Township 29, Range 21, less and except Parcel No. 4 of Washington County Highway Right-of-way Plat No. 41, and Parcel No. 3 of Washington County Highway Right-of-way Plat No. 42, Washington County, Minnesota.
(Torrens)

NOTES

- Field survey was completed by E.G. Rud and Sons, Inc. on 4/10/14.
- Bearings shown are on the Washington County Coordinate System.
- Curb shots are taken at the top and back of curb.
- This survey was prepared without the benefit of title work. Additional easements, restrictions and/or encumbrances may exist other than those shown hereon. Survey subject to revision upon receipt of a current title commitment or an attorney's title opinion.
- Parcel ID Nos. 33-029-21-11-0001, 33-029-21-11-0002, 33-029-21-12-0003, 33-029-21-12-0033, 33-029-21-42-0002.
- Total parcel area = 157.18 acres.
- BENCHMARK: MNDOT Station: HYGAARD MNDT. Elevation = 1010.83 (NGVD 29)

OPEN AREA CALCULATIONS FOR ENTIRE SITE

TOTAL SITE AREA = 157.18 ACRES (100%)

PUBLIC PARK (SINGLE FAMILY AREA) = 12.68 ACRES (8.07%)
PUBLIC PARK (MULTI-FAMILY AREA) = 1.78 ACRES (1.12%)
ISLANDS DEDICATED TO FILTRATION = 3.21 ACRES (2.04%)
OUTLOT A = 1.42 ACRES (0.90%)
OUTLOT B = 0.62 ACRES (0.39%)
OUTLOT C = 4.84 ACRES (3.08%)
OUTLOT D (OPEN AREA) = 1.50 ACRES (0.95%)
OUTLOT E (OPEN AREA) = 3.66 ACRES (2.32%)
OUTLOT F (OPEN AREA) = 1.06 ACRES (0.67%)
OUTLOT H (OPEN AREA) = 0.00 ACRES (0.00%)
OUTLOT I (OPEN AREA) = 11.72 ACRES (7.46%)
OUTLOT J (OPEN AREA) = 1.56 ACRES (0.99%)
BERMS & OPEN SPACE ON RESIDENTIAL SITE NOT IN OUTLOTS = 4.52 ACRES (2.87%)

TOTAL OPEN AREA FOR ENTIRE SITE = 48.55 ACRES (30.89% OF SITE)

OPEN AREA CALCULATIONS FOR THE PUD SITE EXCEPT FOR OUTLOT D

TOTAL PUD SITE AREA = 102.81 ACRES (100%)

PUBLIC PARK (SINGLE FAMILY AREA) = 12.68 ACRES (12.33%)
ISLANDS DEDICATED TO FILTRATION = 3.21 ACRES (3.12%)
OUTLOT A = 1.42 ACRES (1.38%)
OUTLOT B = 0.62 ACRES (0.63%)
OUTLOT C = 4.84 ACRES (4.71%)
BERMS AND OPEN SPACE ON RESIDENTIAL SITE NOT IN OUTLOTS = 4.52 ACRES (4.40%)

TOTAL OPEN AREA FOR PUD SITE = 27.29 ACRES (26.54% OF SITE)

SEE SHEET 13 OF 25 SHEETS

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DANIEL W. DOERMULLER
Date: 02/16/15 License No. 25341

Drawn By: JEN	Job No. 13777PP	Date: 10/10/14
Check By: DWD	Scanned ☐	
1 02/16/15	Revised Layout:	JEN
2		
3		
No. Date	Description	By

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

HANS HAGEN HOMES
941 NE Hillwind Rd., Suite 300
Fridley, MN 55432

INWOOD
Lake Elmo, Minnesota

OPEN SPACE PLAN

12 of 25

13777PP

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SEE SHEET 12 OF 25 SHEETS

NORTH

OPEN AREA PER CALCULATIONS

NOTES

SEE SHEET 12 OF 25 SHEETS FOR NOTES.

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Date: 02/16/15 License No. 25341

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(IN FEET)
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OPEN SPACE PLAN

13 of 25

13777PP

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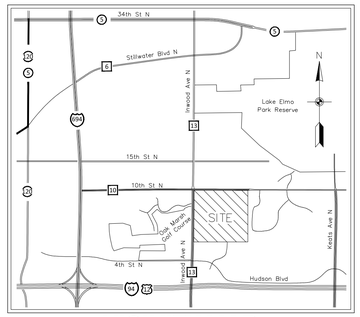
INWOOD

GRADING, DEVELOPMENT & EROSION CONTROL PLANS

LAKE ELMO, MINNESOTA



VICINITY MAP

NOT TO SCALE

N

0 100 200 400

(IN FEET)

BENCHMARKS

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SHEET INDEX

CALL BEFORE YOU DIG

811 Know what's **below.** **Call** before you dig.

The subsurface utility information shown on this plan is utility Quality Level D. This quality level was determined according to the guidelines of CI/ASCE 38-02, entitled "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data."

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Signature: Brian J. Krystofiak
Date: 02/13/15 License #: 25063

Drawn: LC
Designed: BJK
Date: 02/13/15

Revisions:
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2. 03/23/15 Per Watershed Comments
3. 03/27/15 Per City Comments
4. 04/06/15 Per MPCA Comments
5. 04/10/15 Per City Comments
6. 04/16/15 Per City Comments

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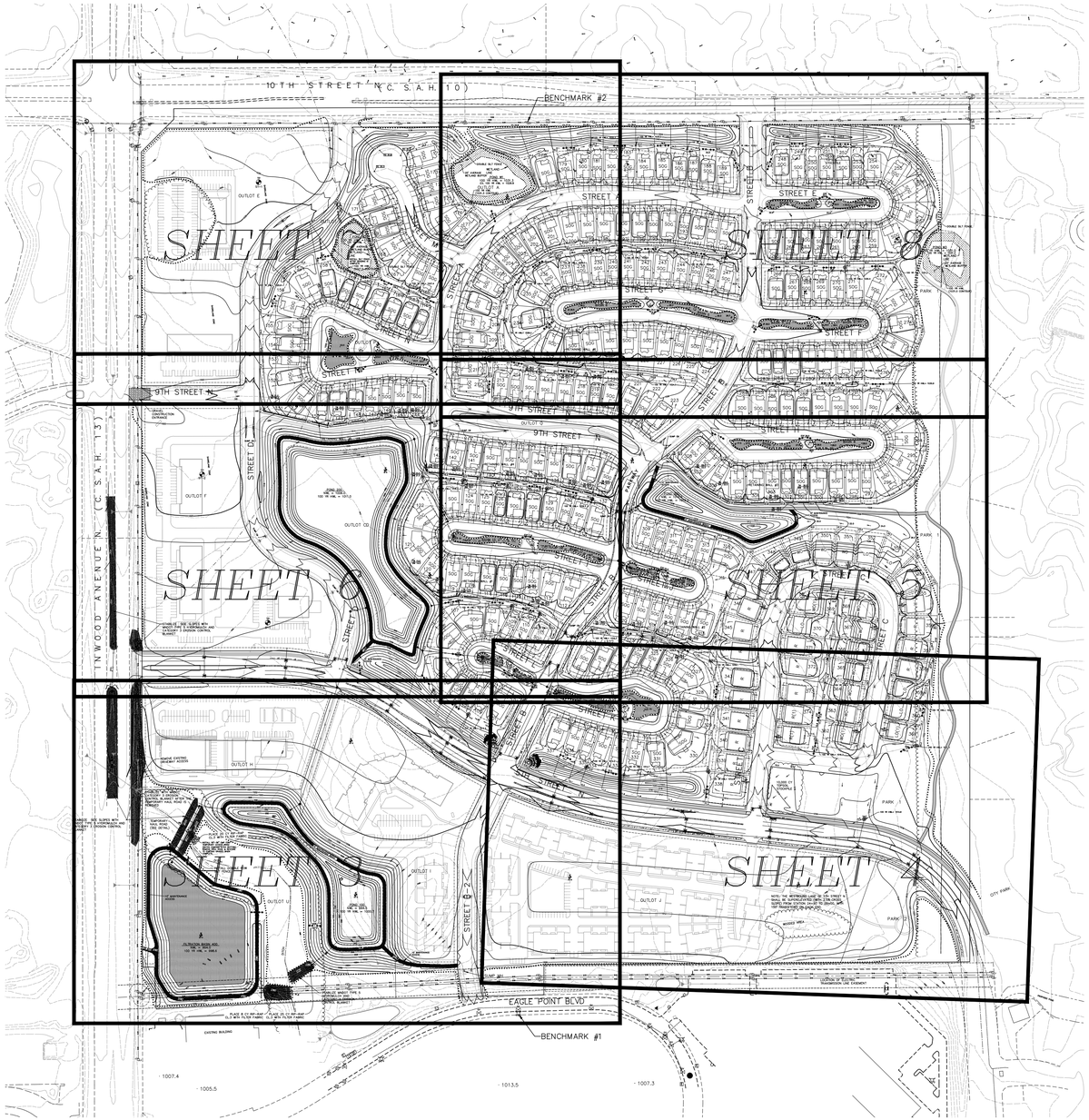
Lake Elmo, Minnesota

COVER SHEET

1 of 12

Save Date: 04/16/15 F:\jobs\5161 - 5180\5172 - lake elmo property\cad\engineer\final grading\5172_gr-cover.dwg



LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
EASEMENT LINE		
CURB LINE		
BITUMINOUS		
CONCRETE		
SANITARY SEWER		
STORM SEWER		
WATER MAIN		
OVERHEAD UTILITY		
STORM CATCH BASIN		DENOTES INLET PROTECTION
STORM MANHOLE	STMH	
OUTLET CONTROL STRUCTURE		
MANHOLE	SAN MH	
HYDRANT		
GATE VALVE	GV	
TELEVISION BOX	TV	
TELEPHONE BOX	TEL	
UTILITY POLE		
RETAINING WALL		
FENCE		
10' CONTOUR		
2' CONTOUR		
FEMA FLOOD PLAIN		
WETLAND LINE		
SPOT ELEVATION	00.0	00.0
EMERGENCY OVERFLOW		E.O.F. 000.0
SILT FENCE		
TREE FENCE		
EROSION CONTROL BLANKET		
TREELINE		
SOIL BORING	TP B-1 (AET REPORT)	
	TP ST-1 (BRAUN REPORT)	

CONSTRUCTION NOTES

1. RETAINING WALLS ARE REQUIRED TO BE PERMITTED SEPERATELY. FOR INTERIM GRADING, SLOPE OUT WALL AREAS AT A 3:1 MATCH SLOPE.
2. FOR MASS GRADING CONSTRUCTION, FILTRATION BASINS 1–18 SHALL BE EXCAVATED TO FINAL GRADE AND USED AS TEMPORARY SEDIMENTATION BASINS. NO SUBCUTTING OR DRAINTILE IS REQUIRED UNTIL UTILITIES ARE CONSTRUCTED IN THOSE AREAS. UPON FINAL BASIN CONSTRUCTION, SILT FENCE SHALL BE INSTALLED IMMEDIATELY AROUND BASIN AS SHOWN ON THIS PLAN.
3. ALL WORK SHALL CONFORM TO THE CITY OF LAKE ELMO STANDARD SPECIFICATIONS

BASIN DATA

BASIN No.	BOTTOM ELEV.	OUTLET ELEV.	100 YR. HWL
1	1030.5	1031.0	1031.8
2	1032.0	1032.5	1033.9
3	1027.5	1028.0	1028.9
4	1028.5	1029.0	1030.5
5	1026.0	1026.5	1027.2
6	1026.0	1026.5	1027.3
7	1027.0	1027.5	1028.4
8	1028.0	1028.5	1030.1
9	1018.0	1018.5	1019.2
10	1019.0	1019.5	1020.8
11	1016.5	1017.0	1017.6
12	1015.0	1015.5	1016.3
13	1012.0	1012.5	1013.4
14	1013.0	1013.5	1014.7
15	1012.0	1012.5	1012.9
16	1011.5	1012.0	1012.6
17	1022.5	1023.0	1023.7
18	1023.0	1023.5	1024.8

N

0 100 200 400

(IN FEET)

BENCHMARKS

1. Top Nut of Hydrant located on the south side of Eagle Point Road approximately 1290 ft. easterly of the intersection of Eagle Pont Road and Inwood Avenue North – Elevation=1006.57 (NGVD 29)
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Date: 02/13/15 License #: 25063

Drawn: LC
Designed: BJK
Date: 02/13/15

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Fridley, MN 55432

InWood
Lake Elmo, Minnesota

GRADING INDEX

2 of 12

Save Date: 04/16/15 | f:\jobs\5161 - 5180\5172 - lake elmo property\cad\engineer\final grading\5172_gr.dwg

INWOOD AVENUE N. (C.S.A.H. 13)

SEE SHEET 6

SEE SHEET 4

OUTLOT H

OUTLOT I

OUTLOT K

OUTLOT U

REMOVE EXISTING DRIVEWAY ACCESS

STABILIZE WITH MNDOT CATEGORY 3 EROSION CONTROL BLANKET AFTER THE TEMPORARY HAUL ROAD IS REMOVED

STABILIZE SIDE SLOPES WITH MNDOT TYPE 5 HYDROMULCH AND CATEGORY 3 EROSION CONTROL BLANKET

TEMPORARY HAUL ROAD (SEE DETAIL)

PLACE 20 CY RIP-RAP CL.3 WITH FILTER FABRIC

INSTALL 50'-36" CMP FOR TEMPORARY ACCESS ROAD (MATCH EXISTING DITCH BOTTOM) REMOVE HAUL ROAD & RESTORE TO EXISTING GRADES WHEN COMPLETE.

DITCH

INSTALL DOUBLE ROW SILT FENCE

10' MAINTENANCE ACCESS

30' MAINTENANCE BENCH

FILTRATION BASIN 400
NWL = 994.0
100 YR HWL = 998.6

POND 100
NWL = 994.5
100 YR HWL = 1000.7

STABILIZE MNDOT TYPE 5 HYDROMULCH AND CATEGORY 4 EROSION CONTROL BLANKET

PLACE 8 CY RIP-RAP CL.3 WITH FILTER FABRIC

PLACE 25 CY RIP-RAP CL.3 WITH FILTER FABRIC

STREET B

STREET B-2

STREET K

5TH STREET N.

EAGLE POINT BLVD

SUMP MH

BASIN 13

BENCHMARK #1

BENCHMARKS

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(IN FEET)

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InWood
Lake Elmo, Minnesota

GRADING, DEVELOPMENT & EROSION CONTROL PLAN

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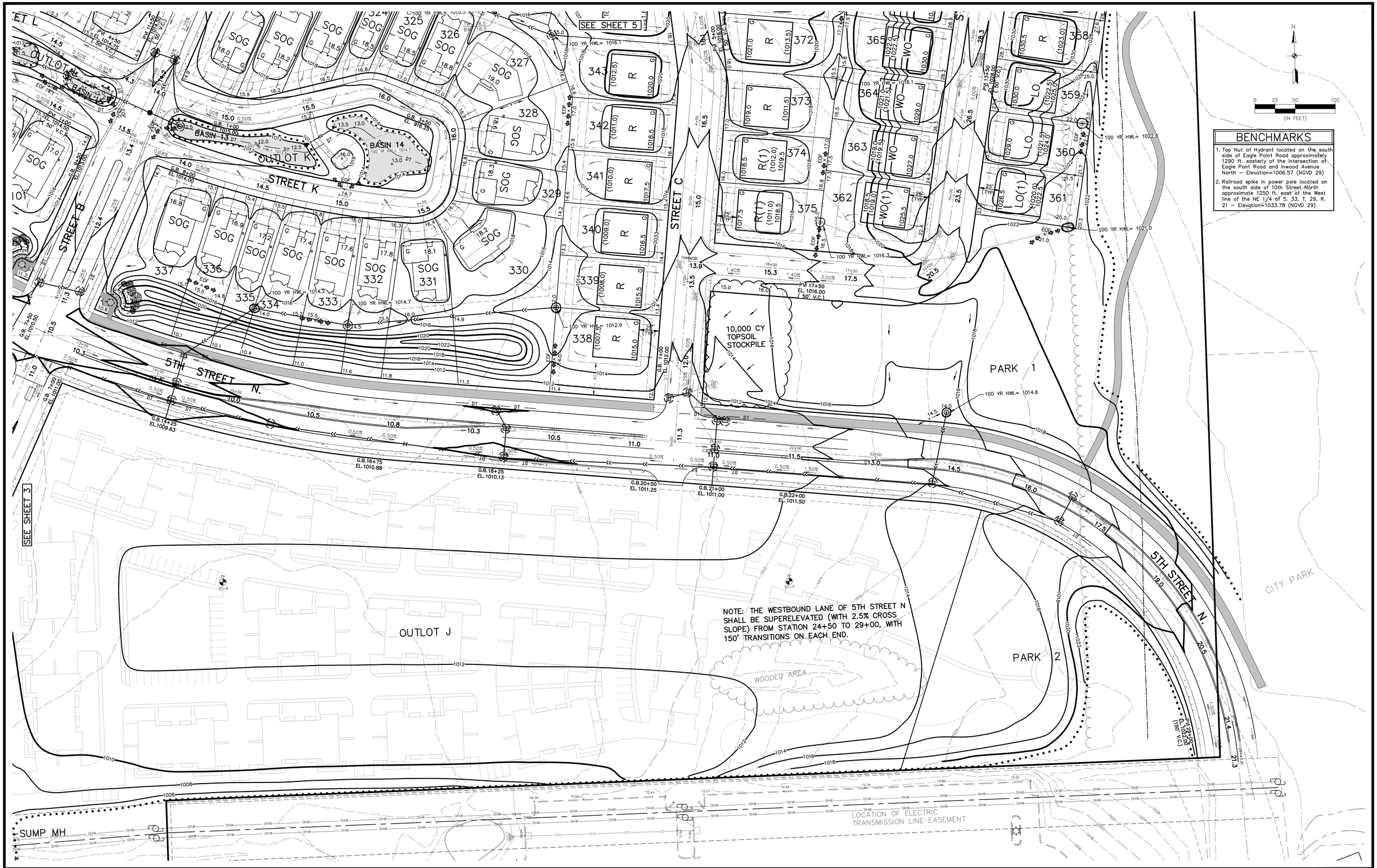

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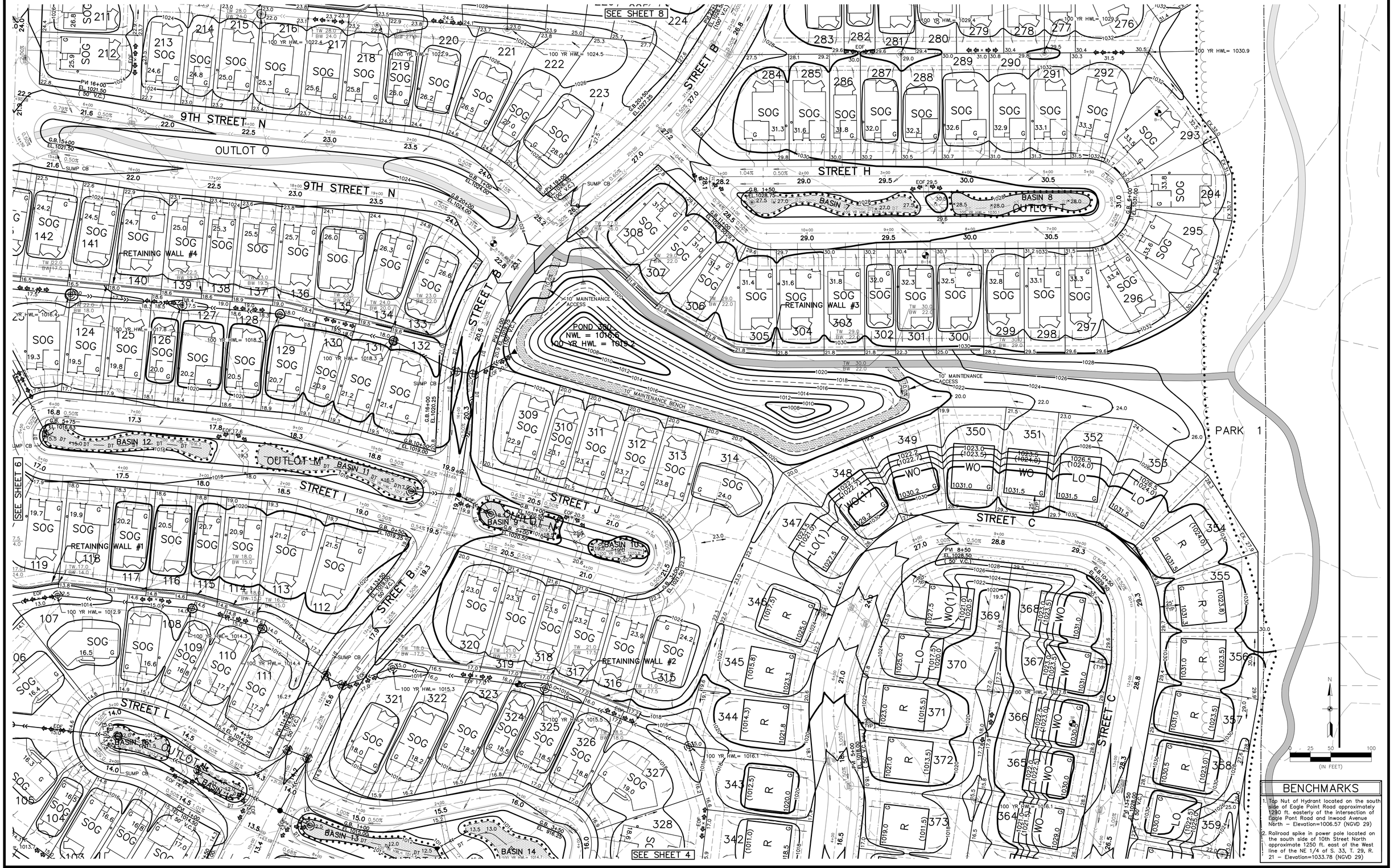

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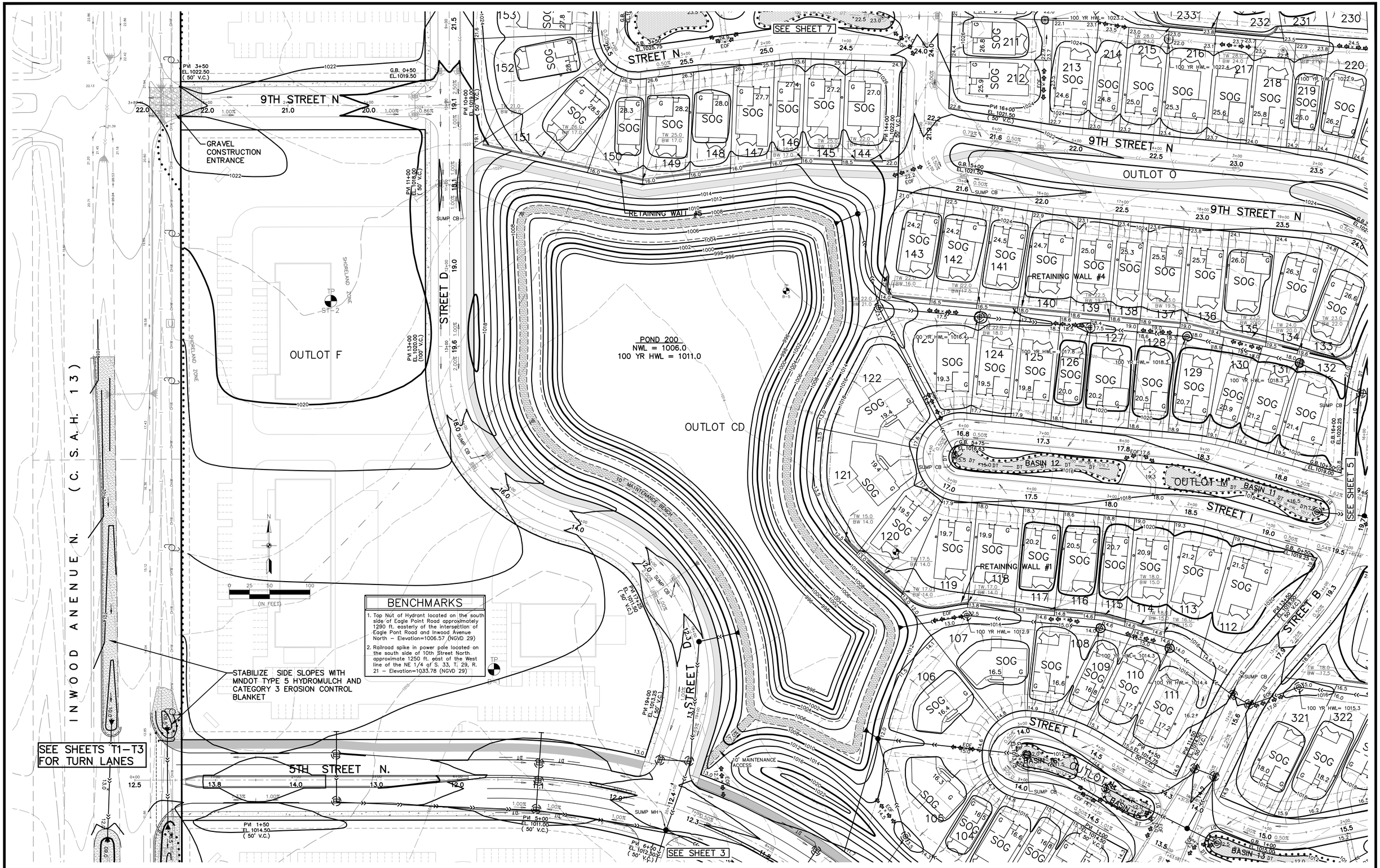
GRADING, DEVELOPMENT & EROSION CONTROL PLAN

5 of 12

Save Date: 04/16/15 | F:\jobs\5161 - 5180\5172 - lake elmo property\cad\engineer\final grading\5172_gr.dwg



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GRADING, DEVELOPMENT & EROSION CONTROL PLAN

6 of 12

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10 T H S T R E E T N.

(C. S. A. H. 1 0)

BENCHMARK #2

OUTLOT E

OUTLOT B

OUTLOT A
100 YR HWL
(1031.3 CONTOUR)

OUTLOT P

DOUBLE SILT FENCE

25' AVERAGE WETLAND BUFFER

WETLAND LINE

POND W1
100 YR HWL = 1031.3
EX. 100 YR HWL = 1029.9

POND W2
100 YR HWL = 1027.5
EX. 100 YR HWL = 1027.4

INSTALL SILT FENCE AFTER GRADING IS COMPLETE

SHORELAND ZONE

STREET A

STREET D

STREET M

STREET N

9TH STREET N

BASIN 6

BASIN 17

BASIN 18

RETAINING WALL #6

SEE SHEET 6

SEE SHEET 8

0 25 50 100
(IN FEET)

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BENCHMARK #2

10TH STREET N. (C. S. A. H. 10)

STREET A

STREET B

STREET E

STREET F

STREET G

9TH STREET N

DOUBLE SILT FENCE

WETLAND LINE

25' AVERAGE WETLAND BUFFER

POND W1
100 YR HWL = 1031.3
EX. 100 YR HWL = 1029.9

OUTLOT A
100 YR HWL
(1031.3 CONTOUR)

10,000 CY TOPSOIL STOCKPILE

BASIN 1

BASIN 2

BASIN 3

BASIN 4

BASIN 5

BASIN 6

OUTLOT Q

OUTLOT R

OUTLOT S

RETAINING WALL #6

POND W3
100 YR HWL = 1031.0
EX. 100 YR HWL = 1031.2

PARK 1

SEE SHEET 7

SEE SHEET 5

(IN FEET)

BENCHMARKS

1. Top Nut of Hydrant located on the south side of Eagle Point Road approximately 1290 ft. easterly of the intersection of Eagle Pont Road and Inwood Avenue North – Elevation=1006.57 (NGVD 29)
2. Railroad spike in power pole located on the south side of 10th Street North approximate 1250 ft. east of the West line of the NE 1/4 of S. 33, T. 29, R. 21 – Elevation=1033.78 (NGVD 29)

Carlson McCann
• environmental
• engineering
• surveying

248 Apollo Drive, Suite 100
Lino Lakes, MN 55014
Phone: (763) 489-7900
Fax: (763) 489-7959
www.carlsonmccain.com

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

Print Name: Brian J. Krystofiak, P.E.
Signature:
Date: 02/13/15 License #: 25063

Drawn: LC
Designed: BJK
Date: 02/13/15

Revisions:
1. 02/23/15 Update Bid Set Per City Comments
2. 03/23/15 Per Watershed Comments
3. 03/27/15 Per City Comments
4. 04/06/15 Per MPCA Comments
5. 04/10/15 Per City Comments
6. 04/16/15 Per City Comments

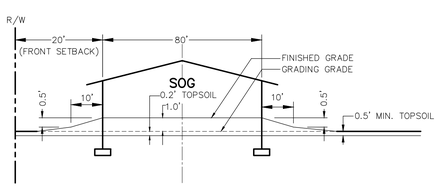
HANS HAGEN HOMES
941 NE Hillwind Rd., Suite 300
Fridley, MN 55432

InWood
Lake Elmo, Minnesota

GRADING, DEVELOPMENT & EROSION CONTROL PLAN

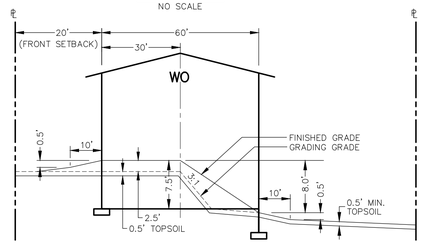
Save Date: 04/16/15 f:\jobs\5161 - 5180\5172 - lake elmo property\cad\engineer\final grading\5172_gr.dwg

CARRIAGE / VILLAGE



WALKOUT

NO SCALE



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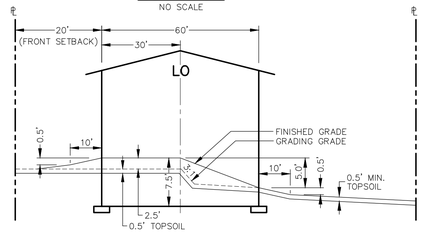

RAMBLER

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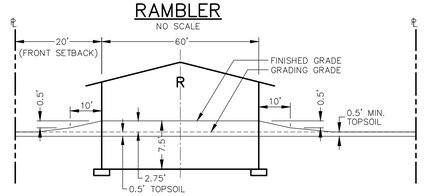
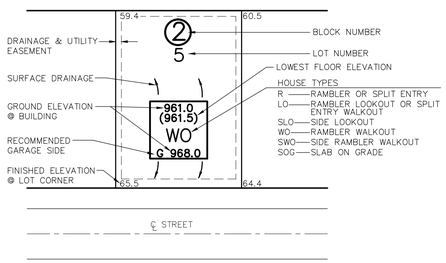


GRADING PLAN LOT KEY



TURF ESTABLISHMENT

TURF ESTABLISHMENT SHALL APPLY TO ALL DISTURBED AREAS AND SHALL BE ACCORDING TO MnDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION (LATEST EDITION) EXCEPT AS MODIFIED BELOW.

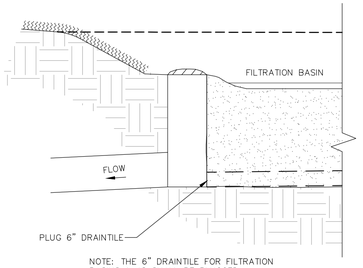
TURF ESTABLISHMENT SHALL OCCUR AS SOON AS POSSIBLE BUT IN NO CASE

SEED: MnDOT MIXTURE 25–141 AT 60 POUNDS PER ACRE.
MORE THAN 14 DAYS.
DORMANT SEED: SHALL BE APPLIED AT TWICE THE NORMAL RATE AFTER NOVEMBER 1ST.

MULCH: TYPE 1 AT 2 TONS PER ACRE (DISK ANCHORED).

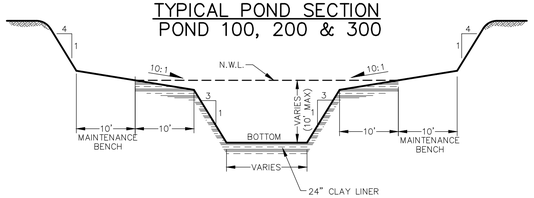
FERTILIZER: TYPE 1 10–10–10 AT 200 POUNDS PER ACRE.

FILTRATION BASINS 1–18

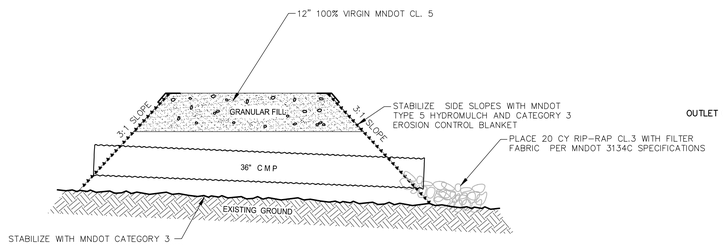


NOTE: THE 6" DRAINTILE FOR FILTRATION BASINS 1–18 SHALL BE PLUGGED INITIALLY. IF THE BASIN DOES NOT DRAIN DOWN WITHIN 48 HOURS, THE PLUG SHALL BE REMOVED AT ENGINEER'S DISCRETION.

TYPICAL POND SECTION
POND 100, 200 & 300

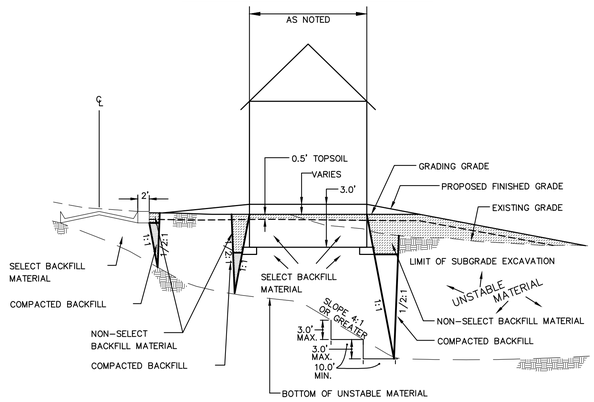


TEMPORARY HAUL ROADS

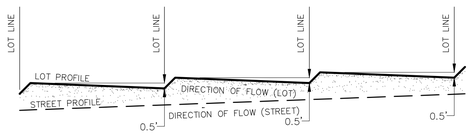


STABILIZE WITH MNDOT CATEGORY 3 EROSION CONTROL BLANKET AFTER THE REMOVAL TEMPORARY HAUL ROAD

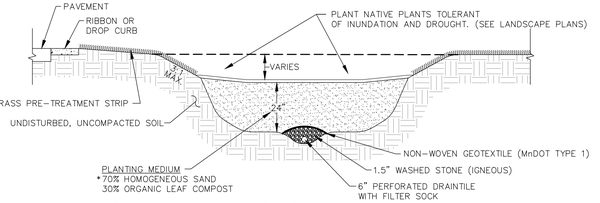
SUBGRADE CORRECTION



LOT BENCHING DETAIL

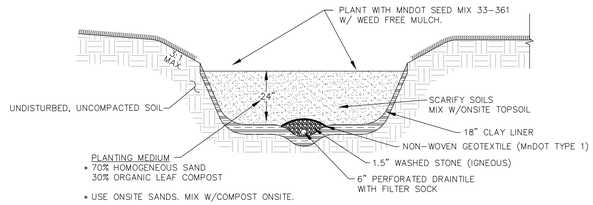


FILTRATION BASINS 1–18



*USE ONSITE SANDS. MIX W/COMPOST ONSITE.

FILTRATION BASIN 400



* USE ONSITE SANDS. MIX W/COMPOST ONSITE.

LEGEND

	EXISTING	PROPOSED
PROPERTY LINE		
EASEMENT LINE		
CURB LINE		
BITUMINOUS		
CONCRETE		
SANITARY SEWER		
STORM SEWER		
WATER MAIN		
OVERHEAD UTILITY		
STORM CATCH BASIN		
STORM MANHOLE		
OUTLET CONTROL STRUCTURE		
MANHOLE		
HYDRANT		
GATE VALVE		
TELEVISION BOX		
TELEPHOUE BOX		
UTILITY POLE		
RETAINING WALL		
FENCE		
10' CONTOUR		
2' CONTOUR		
FEMA FLOOD PLAIN		
WETLAND LINE		
SPOT ELEVATION		
EMERGENCY OVERFLOW		
SILT FENCE (STANDARD DTL #2001)		
TREE FENCE		
TREELINE		
SOIL BORING		

1. THE CONTRACTOR SHALL CONDUCT OPERATIONS AND IMPLEMENT MINNESOTA POLLUTION CONTROL AGENCY (MPCA) BEST MANAGEMENT PRACTICES (BMP) TO CONTROL SITE SILTATION AND EROSION INTO DRAINAGE WAYS. THE CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS AND COMPLETION DATES RELATIVE TO ALL PERMITS ISSUED FOR THE WORK TO BE COMPLETED. THE ENGINEER MAY ISSUE A STOP WORK ORDER FOR ALL DEVELOPMENT WORK AND BUILDING CONSTRUCTION FOR NONCOMPLIANCE WITH THESE MEASURES.

2. SEQUENCING. ALL SILT FENCE AND OTHER EROSION CONTROL MEASURES SHALL BE IN PLACE AND APPROVED BY ENGINEER PRIOR TO ANY REMOVALS, EXCAVATION OR CONSTRUCTION AND SHALL BE MAINTAINED UNTIL VIABLE TURF OR GROUND COVER HAS BEEN ESTABLISHED AND APPROVED BY THE ENGINEER.

3. SILT FENCE. THE CONTRACTOR SHALL INSTALL SILT FENCE AT THE LOCATIONS SHOWN ON THE PLANS AND IN ACCORDANCE WITH THE CITY STANDARD DETAILS. SILT FENCE DAMS AND INTERIM SUMPS SHALL BE PLACED TO INTERCEPT SILT FROM CONCENTRATED RUNOFF FROM OPEN GRADED AREAS. ADDITIONAL SILT FENCE SHALL BE REQUIRED AS DIRECTED BY THE ENGINEER.

4. STOCKPILES. ALL STOCKPILE AREAS SHALL HAVE SILT FENCE OR SEDIMENT TRAPPING SYSTEMS PLACED AROUND THE ENTIRE PERIMETER.

5. INLET PROTECTION. THE CONTRACTOR SHALL INSTALL INLET PROTECTION ON ALL EXISTING STORM SEWER INLETS IN ACCORDANCE WITH THE CITY STANDARD DETAILS. INLET PROTECTION SHALL ALSO BE PROVIDED ON ALL PROPOSED STORM SEWER INLETS IMMEDIATELY FOLLOWING CONSTRUCTION OF THE INLETS. INLET PROTECTION MUST BE INSTALLED IN A MANNER THAT WILL WITHSTAND WINDS AND RAIN FOR EXTENDED PERIODS OF TIME OR IN A MANNER THAT PRESENTS A HAZARD TO VEHICULAR OR PEDESTRIAN TRAFFIC.

6. TEMPORARY SEDIMENT BASINS. THE CONTRACTOR SHALL INCORPORATE TEMPORARY SEDIMENT BASINS THROUGHOUT THE CONSTRUCTION SITE TO CAPTURE RUNOFF AND SLOW THE FLOW OF WATER AND ALLOW SEDIMENT TO SETTLE OUT. TEMPORARY SEDIMENT BASINS SHALL BE INSTALLED AS DIRECTED BY THE CITY ENGINEER.

7. ROCK CONSTRUCTION ENTRANCE. A ROCK ENTRANCE SHALL BE CONSTRUCTED AND MAINTAINED AS SHOWN ON THE PLAN TO REDUCE TRACKING OF SILT AND DIRT ONTO THE PUBLIC STREETS. A GEOTEXTILE FABRIC SHALL BE PLACED UNDERNEATH THE ROCK. THE ROCK SHALL BE PERIODICALLY REPLENISHED TO MAINTAIN THE INTENDED PERFORMANCE. MUD AND DEBRIS SHALL BE REMOVED OR SCRAPED FROM TIRES AND VEHICLE UNDERCARRIAGE PRIOR TO LEAVING THE SITE.

8. STREET SWEEPING. ALL STREETS USED FOR ACCESS TO THE SITE AND HAUL ROUTES USED FOR CONSTRUCTION EQUIPMENT AND MATERIAL SUPPLIES SHALL BE CLEANED AT THE END OF EACH WORKING DAY. THE CITY OR ENGINEER MAY ORDER ADDITIONAL SWEEPING OF THE STREETS AS DEEMED REQUIRED AT DEVELOPER/CONTRACTOR EXPENSE.

STANDARD PLAN NOTES
GRADING AND EROSION CONTROL PLANS

FEBRUARY 2015

CITY OF LAKE ELMO | STANDARD DRAWING NO. 600A | LAKE ELMO

9. DEWATERING. EACH EXCAVATION SHALL BE KEPT DRY DURING THE COURSE OF ALL WORK HEREIN, INCLUDING SUBGRADE CORRECTION, PIPE INSTALLATION, STRUCTURE CONSTRUCTION AND BACKFILLING, TO THE EXTENT THAT NO DAMAGE FROM HYDROSTATIC PRESSURE, FLOATATION OR OTHER DAMAGE RESULTS. ALL EXCAVATIONS SHALL BE DEWATERED TO A DEPTH OF AT LEAST 3 INCHES BELOW THE BOTTOM OF THE CONCRETE SLAB OR PIPE TO BE INSTALLED THEREIN. THE CONTRACTOR MAY USE ANY METHOD OR COMBINATION OF METHODS FOR FOR DEWATERING HE CHOOSES; HOWEVER, ALL DEWATERING METHODS AND EQUIPMENT WHICH IN THE OPINION OF THE ENGINEER, ARE INEFFECTIVE SHALL BE ABANDONED, IMPROVED, REPLACED OR THERWISE ALTERED TO OBTAIN EFFECTIVE DEWATERING. THE CONTRACTOR SHALL PROVIDE ALL POWER, PUMPS, MATERIALS AND APPARATUS NECESSARY, AND SHALL BE RESPONSIBLE FOR DISPOSING OF THE WATER PUMPED FROM THE EXCAVATION IN A MANNER WHICH WILL NOT INTERFERE WITH OTHER WORK WITHIN THE AREA AND NOT TO DAMAGE PUBLIC OR PRIVATE PROPERTY. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE CONDITION OF ANY PIPE, CONDUIT, DITCH, CHANNEL OR NATURE WATERCOURSE UTILIZED FOR DRAINAGE PURPOSES, AND ALL EROSION, SEDIMENT OR OTHER ADVERSE RESULTS OF THEIR USE SHALL BE REPAIRED.

10. POSITIVE DRAINAGE AND PROTECTION. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE THROUGHOUT THE SITE AT ALL TIMES. LOW POINTS WITHIN AND ALONG ROADWAYS ARE EXPRESSLY PROHIBITED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY DITCHES, PIPING OR OTHER MEANS TO FACILITATE PROPER DRAINAGE DURING CONSTRUCTION. TO PROTECT PREVIOUSLY GRADED AREAS FROM EROSION, WOOD FIBER BLANKET SHALL BE PLACED IMMEDIATELY ON STEEP SLOPES (3:1 OR GREATER) AND EMBANKMENTS, PERMANENT AND TEMPORARY DITCHES AND OUTLETS AND OVERFLOWS TO PROTECT THE COMPLETED GRADE AND MINIMIZE SILT IN THE RUNOFF.

11. DRAINAGE DITCHES. THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH OR SWALE THAT DRAINS WATER FROM ANY PORTION OF THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE SITE, MUST BE STABILIZED WITHIN 200 LINEAL FEET FROM THE PROPERTY EDGE, OR FROM THE POINT OF DISCHARGE INTO ANY SURFACE WATER. STABILIZATION OF THE LAST 200 LINEAL FEET MUST BE COMPLETED WITHIN 24 HOURS AFTER CONNECTING TO A SURFACE WATER. STABILIZATION OF THE REMAINING PORTIONS OF ANY TEMPORARY OR PERMANENT DITCHES OR SWALES MUST BE COMPLETE WITHIN 14 DAYS AFTER CONNECTING TO A SURFACE WATER AND CONSTRUCTION IN THAT PORTION OF THE DITCH HAS TEMPORARILY OR PERMANENTLY CEASED. TEMPORARY OR PERMANENT DITCHES OR SWALES THAT ARE BEING USED AS A SEDIMENT CONTAINMENT SYSTEM (WITH PROPERLY DESIGNED ROCK DITCH CHECKS, BIO ROLLS, SILT DIKES, ETC.) DO NOT NEED TO BE STABILIZED. THESE AREAS MUST BE STABILIZED WITHIN 24 HOURS AFTER NO LONGER BEING USED AS A SEDIMENT CONTAINMENT SYSTEM.

12. TURF ESTABLISHMENT. ALL EXPOSED SOIL AREAS MUST BE STABILIZED AS SOON AS POSSIBLE TO LIMIT SOIL EROSION BUT IN NO CASE LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.

STANDARD PLAN NOTES
GRADING AND EROSION CONTOL PLANS

FEBRUARY 2015

CITY OF LAKE ELMO | STANDARD DRAWING NO. 600B | LAKE ELMO

13. MAINTENANCE AND INSPECTION. EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION AND UNTIL SATISFACTORY ESTABLISHMENT OF PERMANENT GROUND COVER IS OBTAINED. ALL EROSION AND SEDIMENTATION CONTROL MEASURES, AND STORMWATER OUTFALLS MUST BE INSPECTED WEEKLY, AND WITHIN 24 HOURS OF THE SITE RECEIVING 0.5 INCHES OF RAIN. REPAIRS MUST BE MADE ON THE SAME DAY OR FOLLOWING DAY OF THE INSPECTION. UNSATISFACTORY CONDITIONS NOT REPAIRED OR CLEARED UP WITHIN 48–HOURS OF NOTIFICATION SHALL RESULT IN A STOP WORK ORDER, AND/OR SAID WORK SHALL BE COMPLETED AT CONTRACTOR'S EXPENSE.

14. REMOVAL. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL TEMPORARY EROSION CONTROL MEASURES, STRUCTURES AND DEVICES ONLY AFTER RECEIVING ENGINEER APPROVAL. ALL DEBRIS, STAKES, AND SILTS ALONG SILT FENCES SHALL BE REMOVED AND DISPOSED OFF SITE. THE CONTRACTOR SHALL HAND RAKE SILTED AREAS ALONG THE FENCE LOCATIONS TO PROVIDE A SMOOTH FINAL GRADE AND SHALL RESTORE THE GROUND SURFACE WITH SEED OR SOD, AS REQUIRED, TO MATCH THE FINISHED GRADE TO THE ADJACENT AREA.

15. FINAL STORM SEWER SYSTEM. AT THE COMPLETION OF THE WORK AND BEFORE THE FINAL WALK THROUGH, THE CONTRACTOR SHALL REMOVE STORM SEWER INLET PROTECTION MEASURES AND THOROUGHLY FLUSH THE STORM SEWER SYSTEM. SEDIMENT AND DEBRIS SHALL BE COMPLETELY REMOVED AND CLEANED AT THE INLETS, OUTLETS, AND DOWNSTREAM OF EACH OUTLET. RIPRAP AND GEOTEXTILE FABRIC MAY REQUIRE ADJUSTMENT AS DIRECTED BY THE ENGINEER TO OBTAIN A LIKE NEW INSTALLATION ACCEPTABLE TO THE CITY.

16. DITCH CHECK (BIOROLL BLANKET SYSTEM). BIOROLL AND BLANKET SYSTEMS SHALL BE BE INSTALLED AS DITCH CHECKS ONLY IN SPECIFIED LOCATIONS AS APPROVED BY THE CITY ENGINEER. BIOROLLS ARE NOT TO BE UTILIZED IN AREAS WHERE VEHICLE AND CONSTRUCTION TRAFFIC OCCUR.

17. FLOTATION SILT CURTAIN. FLOTATION SILT CURTAIN SHALL BE UTILIZED WHEN CONSTRUCTION ACTIVITIES OCCUR DIRECTLY ADJACENT TO LAKES, STREAMS OR WETLANDS IN ORDER TO CONTAIN SEDIMENTS NEAR THE BANKS OF WORKING AREAS. THE INSTALLATION OF FLOTATION SILT CURTAINS WILL BE REQUIRED AS DIRECTED BY THE CITY ENGINEER.

18. CONCRETE WASHOUT ONSITE. ALL LIQUID AND SOLID WASTES GENERATED BY CONCRETE WASHOUT OPERATIONS MUST BE CONTAINED IN A LEAK–PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER. A COMPACTED CLAY LINER THAT DOES NOT ALLOW WASHOUT LIQUIDS TO ENTER GROUND WATER IS CONSIDERED AN IMPERMEABLE LINER. THE LIQUID AND SOLID WASTES MUST NOT CONTACT THE GROUND, AND THERE MUST NOT BE RUNOFF FROM THE CONCRETE WASHOUT OPERATIONS OR AREAS. LIQUID AND SOLID WASTES MUST BE DISPOSED OF PROPERLY AND IN COMPLIANCE WITH MPCA REGULATIONS. A SIGN MUST BE INSTALLED ADJACENT TO EACH WASHOUT FACILITY TO INFORM CONCRETE EQUIPMENT OPERATORS TO UTILIZE THE PROPER FACILITIES.

STANDARD PLAN NOTES
GRADING AND EROSION CONTOL PLANS

FEBRUARY 2015

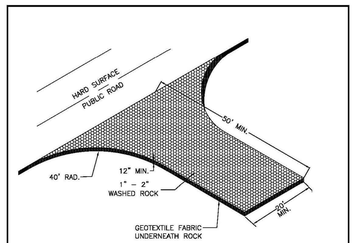
CITY OF LAKE ELMO | STANDARD DRAWING NO. 600C | LAKE ELMO

1. RESTORE ALL DISTURBED AREAS WITH 6 INCHES OF TOPSOIL CONFORMING TO MNDOT 3877.
2. PROTECT ALL STORM SEWER INLETS AS SPECIFIED HEREIN AND MAINTAIN UNTIL STREET CONSTRUCTION IS COMPLETED.
3. MAINTAIN ALL SILT FENCE AND REPAIR OR REPLACE AS NEEDED OR REQUIRED UNTIL TURF HAS BEEN ESTABLISHED.
4. RESTORATION WORK SHALL BEGIN WITHIN 7 DAYS OF FINAL GRADING.
5. A MINIMUM OF 2 ROWS OF SOD SHALL BE PLACED ADJACENT TO THE BACK OF CURBS ALONG ALL BOULEVARDS. SILT FENCE SHALL BE PLACED DIRECTLY BEHIND THE SOD IN ACCORDANCE WITH THE CITY STANDARD DETAILS.
6. BOULEVARD AND DITCH RESTORATION INCLUDES FINE GRADING, WHICH INCLUDES THE REMOVAL OF ROCKS, DEBRIS AND SOIL CHUNKS, WHILE MAINTAINING POSITIVE DRAINAGE.

STANDARD PLAN NOTES
SITE RESTORATION PLANS

FEBRUARY 2015

CITY OF LAKE ELMO | STANDARD DRAWING NO. 600D | LAKE ELMO

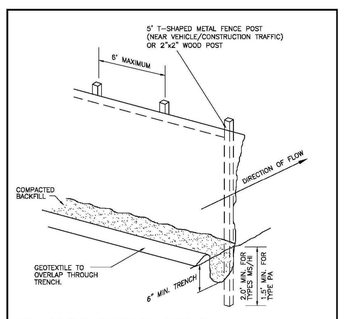


NOTES:
① MAXIMUM WIDTH OF CONSTRUCTION ENTRANCE IS 24 FEET.
② A MNDOT 3733 TYPE V GEOTEXTILE FABRIC SHALL BE USED UNDER THE ROCK TO PREVENT MIGRATION OF THE UNDERLYING SOIL INTO THE STONE.
③ CONSTRUCTION ENTRANCE IS REQUIRED FOR ALL NEW HOME CONSTRUCTION AND NEW STREET CONSTRUCTION.
④ CONSTRUCTION ENTRANCE SHALL BE MAINTAINED TO PREVENT TRACKING OF MUD ONTO ROADWAYS THAT ADJOIN THE PROJECT. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL ROCK OR REMOVAL AND REINSTALATION OF THE ROCK ENTRANCE.
⑤ REMOVE MUD AND DEBRIS FROM TIRES AND VEHICLE UNDERCARRIAGE PRIOR TO LEAVING THE SITE.

ROCK CONSTRUCTION ENTRANCE

FEBRUARY 2015

CITY OF LAKE ELMO | STANDARD DRAWING NO. 605 | LAKE ELMO

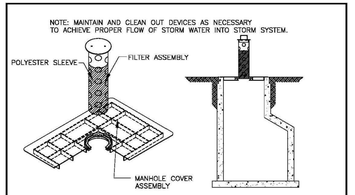


NOTE : –SILT FENCE INSTALLATION SHALL CONFORM TO MNDOT2573.3, TYPE MS/HI NEAR VEHICLE/CONSTRUCTION TRAFFIC, TYPE PA AT ALL OTHER LOCATIONS.
–MATERIALS SHALL CONFORM TO MNDOT 3886.

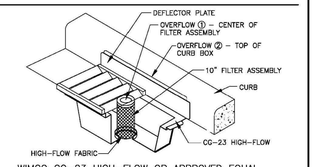
SILT FENCE

FEBRUARY 2015

CITY OF LAKE ELMO | STANDARD DRAWING NO. 601 | LAKE ELMO



WIMCO RD–23 OR APPROVED EQUAL



WIMCO CG–23 HIGH–FLOW OR APPROVED EQUAL

SEDIMENT CONTROL AROUND STORM SEWER INLET

FEBRUARY 2015

CITY OF LAKE ELMO | STANDARD DRAWING NO. 604 | LAKE ELMO

Carlson McCann • environmental • engineering • surveying

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Phone: (763) 489-7900
Fax: (763) 489-7959
www.carlsonmccain.com

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

Print Name: Brian J. Krystofiak, P.E.
Signature:
Date: 02/13/15 License #: 25063

Drawn: LC
Designed: BJK
Date: 02/13/15

Revisions:
1. 02/23/15 Update Bid Set Per City Comments
2. 03/23/15 Per Watershed Comments
3. 03/27/15 Per City Comments
4. 04/10/15 Per City Comments
5. 04/16/15 Per City Comments

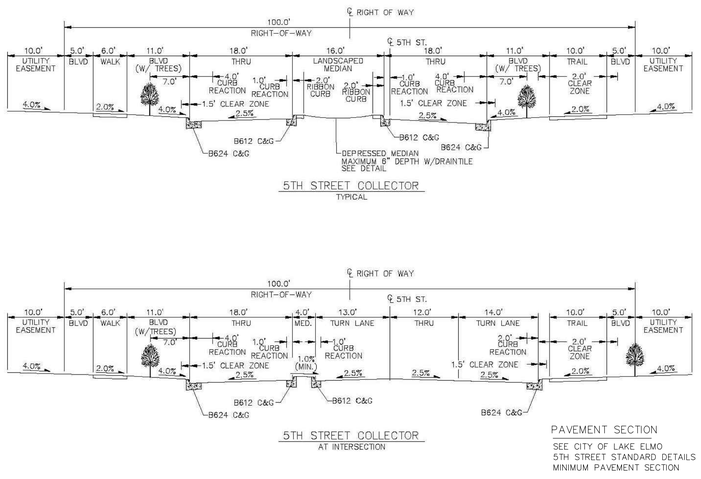
HANS HAGEN HOMES
941 NE Hillwind Rd., Suite 300
Fridley, MN 55432

InWood
Lake Elmo, Minnesota

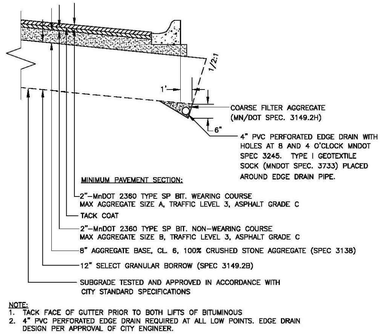
DETAILS

9 of 12

[Save Date: 04/16/15] F:\pbs\5161 – 5180\5172 – lake elmo property\cad\engineer\final grading\5172_dtls.dwg



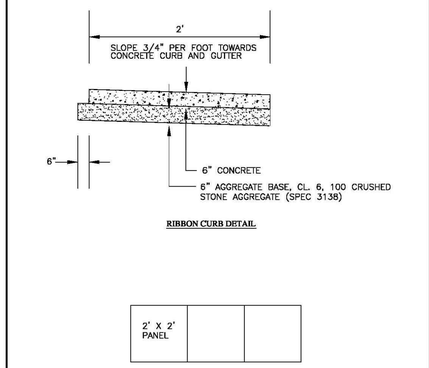
THE CITY OF LAKE ELMO	**5TH STREET STANDARD DETAILS** MARCH 2015	**COLLECTOR TYPICAL SECTIONS**



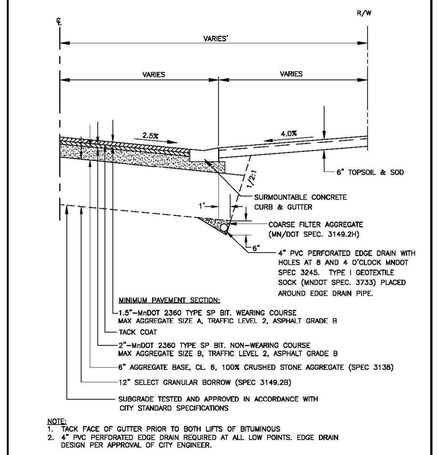
10-TON DESIGN MINIMUM

GEOTECHNICAL REPORT REQUIRED TO VERIFY MINIMUM PAVEMENT CITY SECTION OR RECOMMEND INCREASED PAVEMENT SECTION.

THE CITY OF LAKE ELMO	**5TH STREET STANDARD DETAILS** MARCH 2015	**MINIMUM PAVEMENT SECTION**



THE CITY OF LAKE ELMO	**5TH STREET STANDARD DETAILS** MARCH 2015	**STREET MEDIAN CONCRETE SURFACING**

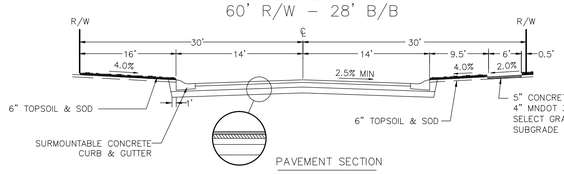


TYPICAL LOCAL RESIDENTIAL STREET SECTION
(MINIMUM 7-TON DESIGN)

FEBRUARY 2015

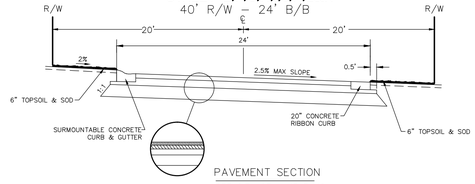
THE CITY OF LAKE ELMO	**CITY OF LAKE ELMO**	STANDARD DRAWING NO. **801** LAKE ELMO

TYPICAL STREET SECTION
STREET A, C & M
60' R/W - 28' B/B



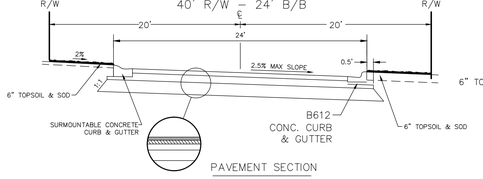
PAVEMENT SECTION
SEE CITY OF LAKE ELMO
STANDARD DRAWING #801
FOR TYPICAL STREET SECTION

TYPICAL STREET SECTION
STREET E,F,G,H,I,J,K,L&N
40' R/W - 24' B/B



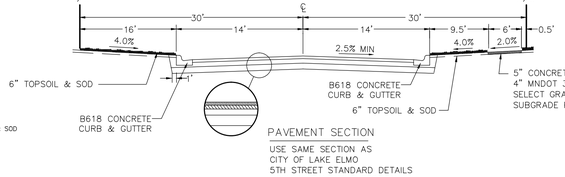
PAVEMENT SECTION
SEE CITY OF LAKE ELMO
STANDARD DRAWING #801
FOR TYPICAL STREET SECTION

TYPICAL STREET SECTION
9TH STREET N (EAST SECTION)
40' R/W - 24' B/B

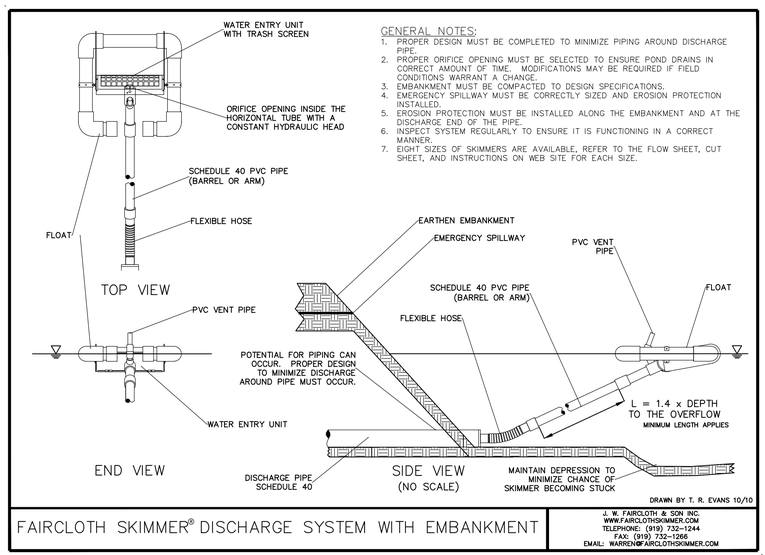


PAVEMENT SECTION
SEE CITY OF LAKE ELMO
STANDARD DRAWING #801
FOR TYPICAL STREET SECTION

TYPICAL STREET SECTION
STREET B, B-2, D & 9TH STREET (WEST SECTION)
60' R/W - 28' B/B



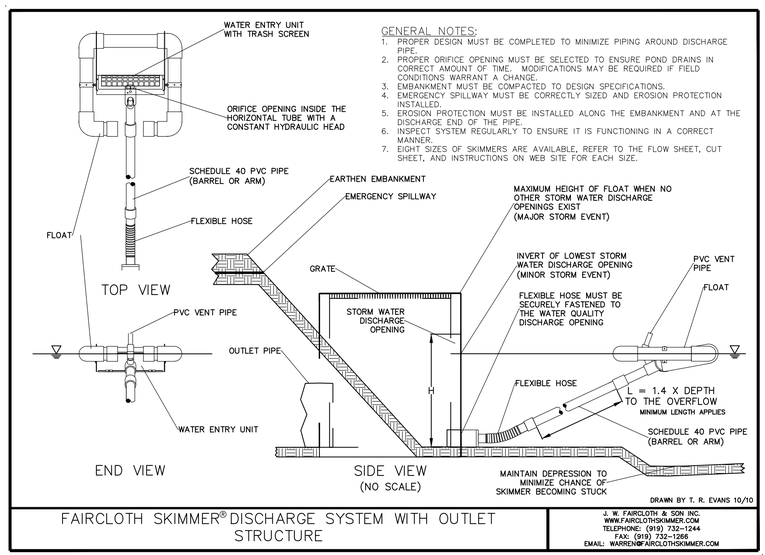
PAVEMENT SECTION
USE SAME SECTION AS
CITY OF LAKE ELMO
5TH STREET STANDARD DETAILS
MINIMUM PAVEMENT SECTION



GENERAL NOTES:
1. PROPER DESIGN MUST BE COMPLETED TO MINIMIZE PIPING AROUND DISCHARGE PIPE.
2. PROPER ORIFICE OPENING MUST BE SELECTED TO ENSURE POND DRAINS IN CORRECT AMOUNT OF TIME. MODIFICATIONS MAY BE REQUIRED IF FIELD CONDITIONS WARRANT A CHANGE.
3. EMBANKMENT MUST BE COMPACTED TO DESIGN SPECIFICATIONS.
4. EMERGENCY SPILLWAY MUST BE CORRECTLY SIZED AND EROSION PROTECTION INSTALLED.
5. EROSION PROTECTION MUST BE INSTALLED ALONG THE EMBANKMENT AND AT THE DISCHARGE END OF THE PIPE.
6. INSPECT SYSTEM REGULARLY TO ENSURE IT IS FUNCTIONING IN A CORRECT MANNER.
7. EIGHT SIZES OF SKIMMERS ARE AVAILABLE, REFER TO THE FLOW SHEET, CUT SHEET, AND INSTRUCTIONS ON WEB SITE FOR EACH SIZE.

DRAWN BY T. R. EVANS 10/10

FAIRCLOTH SKIMMER® DISCHARGE SYSTEM WITH EMBANKMENT	J. W. FAIRCLOTH & SON INC. WWW.FAIRCLOTHSKIMMER.COM TELEPHONE: (919) 732-1244 FAX: (919) 732-1266 EMAIL: WARREN@FAIRCLOTHSKIMMER.COM



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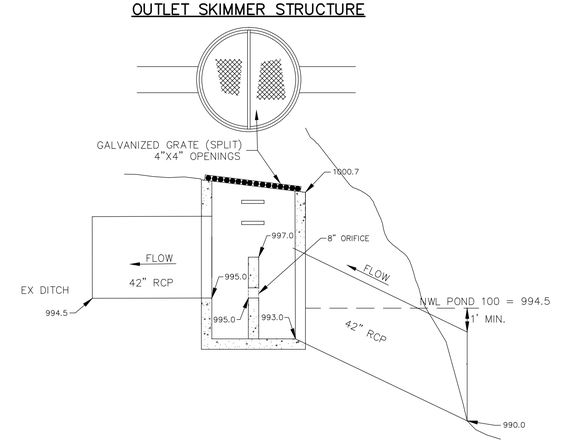
DRAWN BY T. R. EVANS 10/10

FAIRCLOTH SKIMMER® DISCHARGE SYSTEM WITH OUTLET STRUCTURE	J. W. FAIRCLOTH & SON INC. WWW.FAIRCLOTHSKIMMER.COM TELEPHONE: (919) 732-1244 FAX: (919) 732-1266 EMAIL: WARREN@FAIRCLOTHSKIMMER.COM

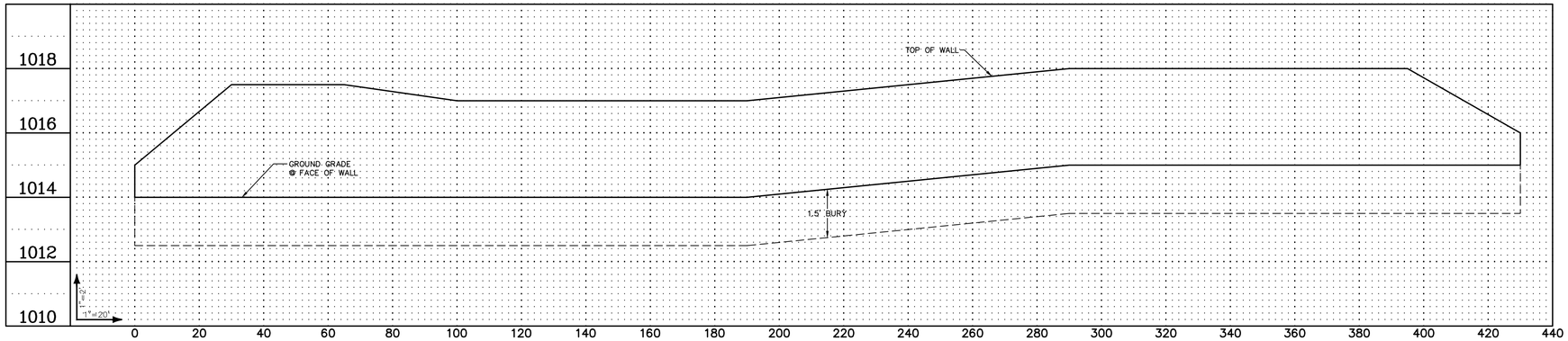
OUTLET SKIMMER STRUCTURE



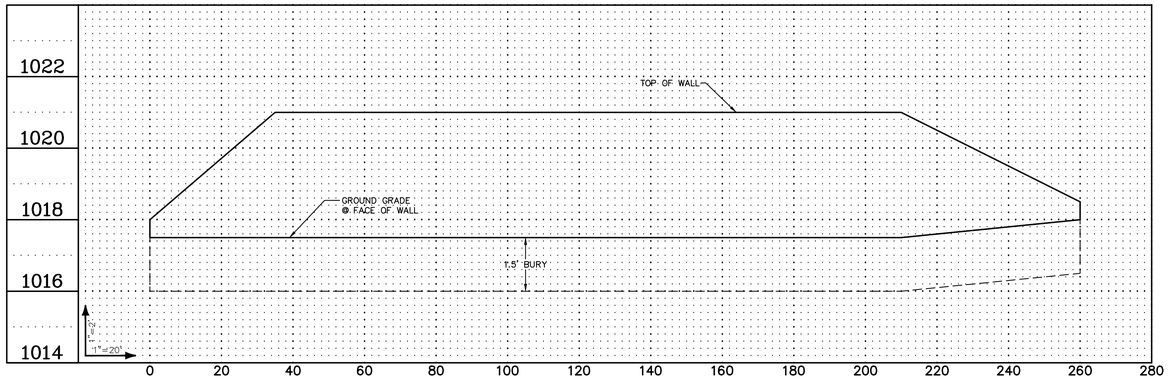
Carlson McCain • environmental • engineering • surveying	248 Apollo Drive, Suite 100 Lino Lakes, MN 55014 Phone: (763) 489-7900 Fax: (763) 489-7959 www.carlsonmccain.com	I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota Print Name: Brian J. Krystofiak, P.E. Signature: Date: 02/13/15 License #: 25063	Drawn: LC Designed: BJK Date: 02/13/15	Revisions: 1. 02/23/15 Update Bid Set Per City Comments 2. 04/06/15 Update Bid Set Per MPCA Comments 3. 04/16/15 Revise Per City Comments	**HANS HAGEN HOMES** 941 NE Hillwind Rd., Suite 300 Fridley, MN 55432	**InWood** Lake Elmo, Minnesota	**DETAILS**	10 of 12

Save Date: 04/16/15 f:\jobs\5161 - 5180\5172 - lake elmo property\cad\engineer\final grading\5172_dtls.dwg

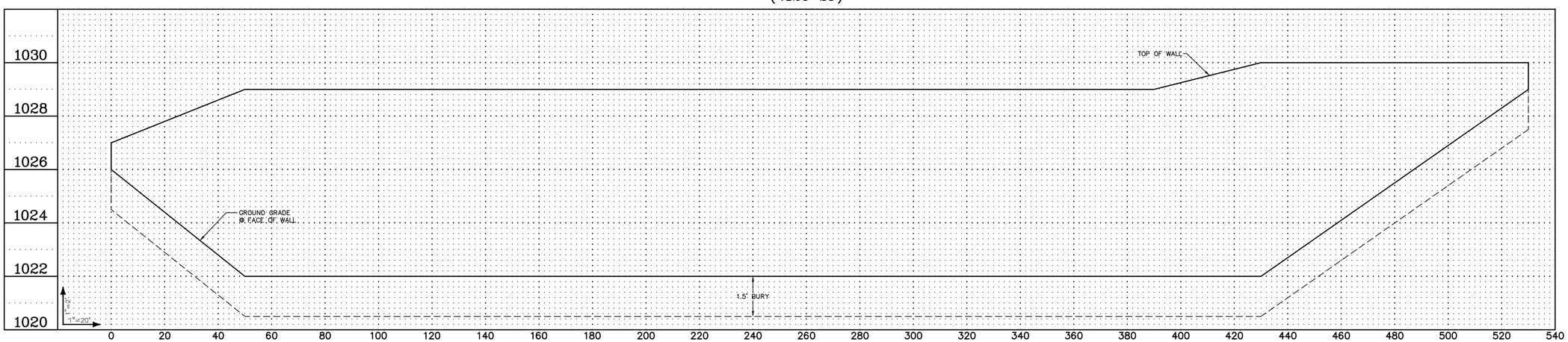
MODULAR RETAINING WALL #1
(1900 SF)



MODULAR RETAINING WALL #2
(1173 SF)



MODULAR RETAINING WALL #3
(4125 SF)



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Phone: (763) 489-7900
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www.carlsonmccain.com

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

Print Name: Brian J. Krystofiak, P.E.
Signature:
Date: 02/13/15 License #: 25063

Drawn: LC
Designed: BJK
Date: 02/13/15

Revisions:
1. 02/23/15 Update Bid Set Per City Comments

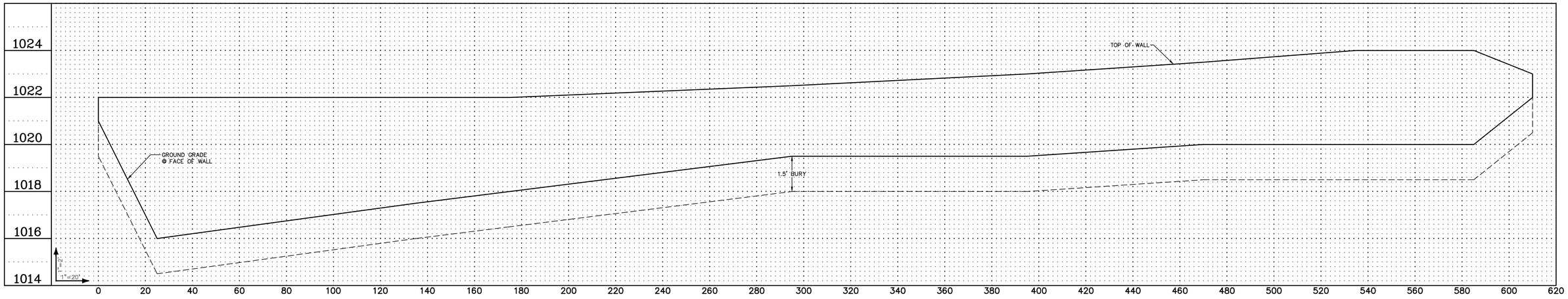
HANS HAGEN HOMES
941 NE Hillwind Rd., Suite 300
Fridley, MN 55432

InWood
Lake Elmo, Minnesota

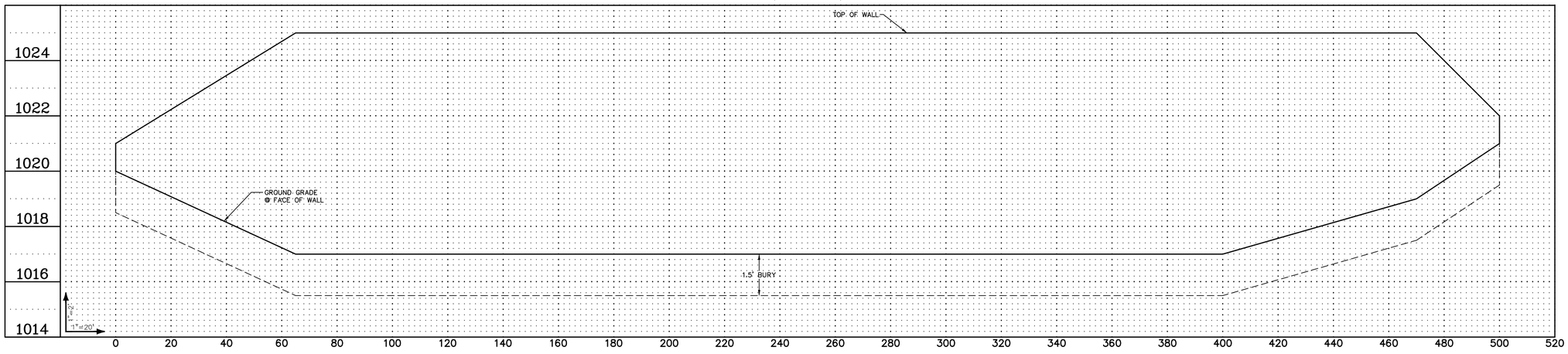
RETAINING WALL PROFILES

[Save Date: 03/27/15] F:\jobs\5161 - 5180\5172 - lake elmo property\cad\engineer\final grading\5172_00s.dwg

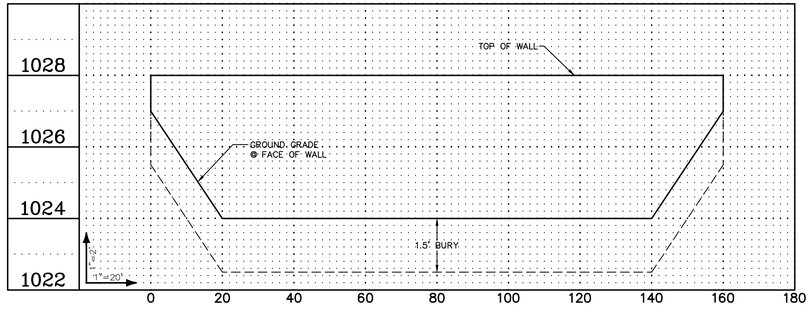
MODULAR RETAINING WALL #4
(3264 SF)



MODULAR RETAINING WALL #5
(4318 SF)



MODULAR RETAINING WALL #6
(820 SF)



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www.carlsonmccain.com

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

Print Name: Brian J. Krystofiak, P.E.
Signature:
Date: 02/13/15 License #: 25063

Drawn: LC
Designed: BJK
Date: 02/13/15

Revisions:
1. 02/23/15 Update Bid Set Per City Comments

HANS HAGEN HOMES
941 NE Hillwind Rd., Suite 300
Fridley, MN 55432

InWood
Lake Elmo, Minnesota

RETAINING WALL PROFILES

Save Date: 02/27/15 F:\jobs\5161 - 5180\5172 - lake elmo property\cad\engineer\final grading\5172_40h.dwg

PROJECT NAME: InWood
PROJECT LOCATION: Lake Elmo, MN
CARLSON PROJECT NO.: 5172-00
DATE: 10/23/14
BY: JJO
Rev.: 02/16/15

DESIGN CRITERIA	
Storm Frequency	10 year
Manning's "n"	0.013
"C" coefficient	varies

Carlson McCain
ENVIRONMENTAL • ENGINEERING • SURVEYING

LOCATION		STRUCTURE	AREA	"C" COEFFICIENT			GENERAL		DESIGN						PROFILE INFORMATION			
CBMH (from)	CBMH (to)	Size	Inc. Area (ac)	Inc. "C"	Inc. CA	Cum. CA	T (min)	I (in/hr)	Q = CAI (cfs)	D (in)	% Grade	Q_{full} (cfs)	V_{full} (fps)	L (ft)	Invert (in)	Invert (out)	Rim El.	Build (ft)
399	398	27	0.51	0.3	0.15	0.15	12	5.4	0.83	12	0.70%	2.98	3.79	128	1026.00	1025.10	1030.50	4.50
398	397	48	0.50	0.3	0.15	0.30	12	5.4	1.64	15	0.50%	4.56	3.72	176	1024.94	1024.06	1029.50	4.56
397	382	48	0.53	0.3	0.16	0.46	12	5.4	2.50	15	1.30%	7.36	6.00	210	1024.06	1021.33	1029.00	4.94
396	382	24x36	0.37	0.45	0.16	0.16	10	5.8	0.96	12	0.45%	2.39	3.04	26	1021.71	1021.59	1026.21	4.50
395	381	48	2.65	0.3	0.80	0.80	23	3.8	3.03	15	0.50%	4.56	3.72	134	1023.00	1022.33	1027.50	4.50
391	390	24x36	0.15	0.45	0.07	0.07	10	5.8	0.40	12	0.45%	2.39	3.04	75	1018.62	1018.28	1023.12	4.50
390	380	48	0.17	0.45	0.08	0.15	10	5.8	0.86	15	0.45%	4.33	3.53	26	1018.12	1018.00	1025.43	7.31
385	383	27	1.46	0.3	0.44	0.44	22	3.9	1.71	12	0.45%	2.39	3.04	70	1022.00	1021.69	1026.50	4.50
384	383	27	2.27	0.3	0.68	0.68	22	3.9	2.66	12	0.60%	2.76	3.51	32	1023.50	1023.31	1028.00	4.50
383	382	48	0.00	0.45	0.00	1.12	22	3.9	4.37	15	0.50%	4.56	3.72	211	1021.52	1020.46	1028.34	6.82
382	381	48	0.85	0.45	0.38	2.13	22	3.9	8.31	18	0.65%	8.46	4.79	119	1020.30	1019.52	1026.21	5.91
381	380	48	0.00	0.45	0.00	2.93	23	3.8	11.13	21	0.50%	11.20	4.65	152	1019.36	1018.60	1026.98	7.62
380	FES	48	0.38	0.45	0.17	3.25	23	3.8	12.34	24	0.40%	14.30	4.55	87	1016.85	1016.50	1025.43	8.58
st372	371		0.73	0.65	0.47	0.47	11	5.6	2.66	15	0.45%	4.33	3.53	27	1006.50	1006.38	1010.00	3.50
371	370	48	0.37	0.65	0.24	0.71	11	5.6	4.00	15	0.45%	4.33	3.53	34	1006.38	1006.23	1011.09	4.71
370	FES	48	0.32	0.65	0.21	0.92	11	5.6	5.15	15	0.65%	5.20	4.24	35	1006.23	1006.00	1011.09	4.86
st362	361		1.98	0.65	1.29	1.29	11	5.6	7.22	18	1.00%	10.50	5.94	27	1008.00	1007.73	1016.00	8.00
361	360	48	0.13	0.65	0.09	1.38	11	5.6	7.70	18	1.00%	10.50	5.94	26	1007.73	1007.47	1016.42	8.69
360	FES	48	0.11	0.65	0.07	1.45	11	5.6	8.10	18	1.00%	10.50	5.94	70	1006.70	1006.00	1016.42	9.72
351	333	27	0.52	0.65	0.34	0.34	13	5.3	1.79	12	1.00%	3.56	4.53	88	1021.00	1020.12	1025.50	4.50
st350	333		3.00	0.65	1.95	1.95	11	5.6	10.92	21	0.70%	13.25	5.51	53	1020.00	1019.63	1028.00	8.00
348	347		0.22	0.65	0.15	0.15	10	5.8	0.84	12	0.50%	2.52	3.21	26	1014.36	1014.23	1018.86	4.50
347	345		0.22	0.65	0.14	0.29	10	5.8	1.68	15	0.50%	4.56	3.72	42	1014.06	1013.85	1018.86	4.80
st346	345		1.74	0.65	1.13	1.13	12	5.4	6.10	18	0.70%	8.78	4.97	29	1014.50	1014.30	1024.00	9.50
345	331	48	0.27	0.65	0.17	1.59	12	5.4	8.60	18	0.70%	8.78	4.97	26	1013.69	1013.50	1019.46	5.77
st341	340		1.86	0.65	1.21	1.21	12	5.4	6.54	18	0.80%	9.39	5.31	35	1012.80	1012.52	1021.00	8.20

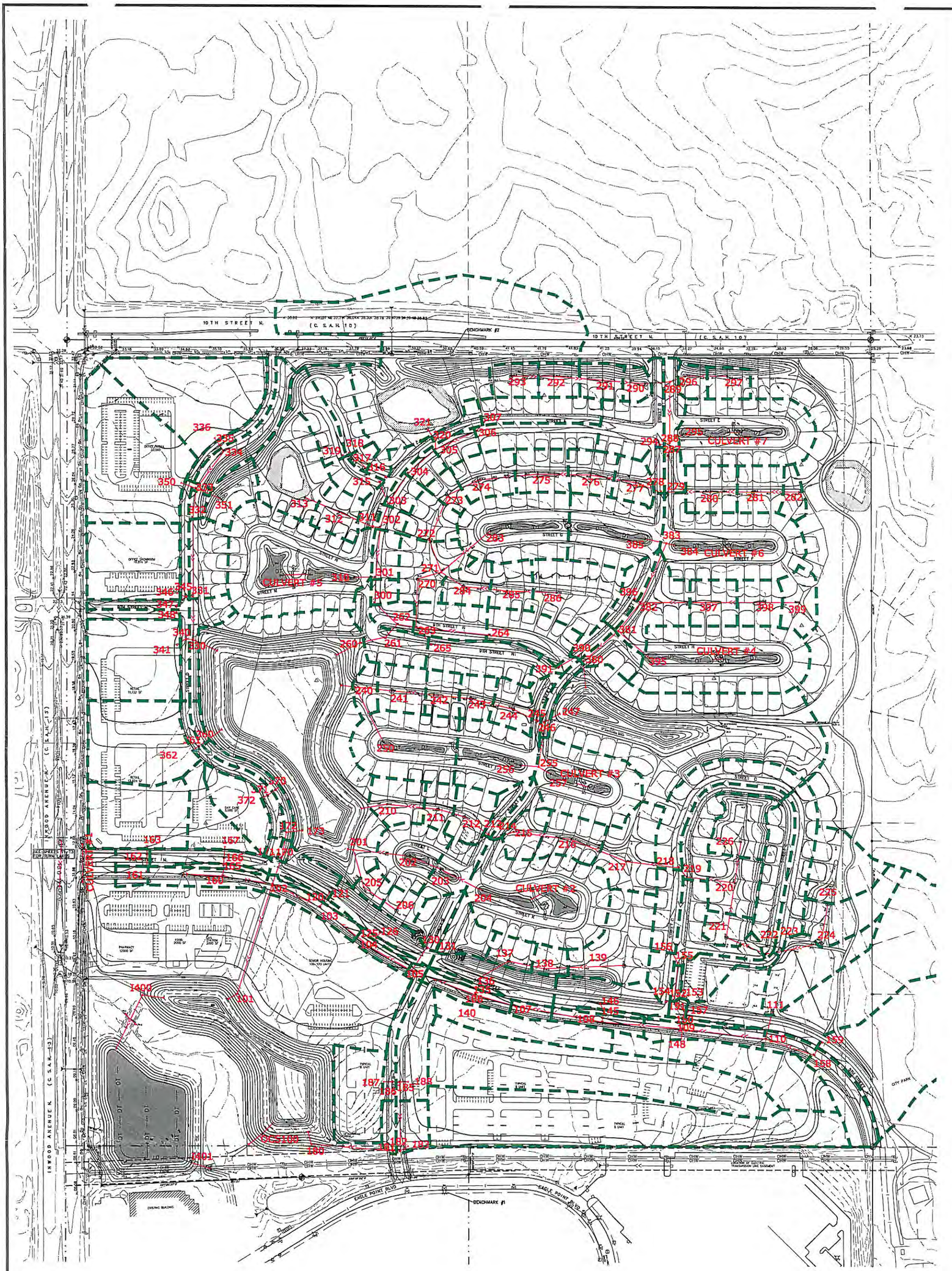
340	330	48	0.23	0.65	0.15	1.36	12	5.4	7.36	18	0.80%	9.39	5.31	26	1012.52	1012.31	1017.55	5.03
st336	335		2.47	0.65	1.61	1.61	13	5.3	8.51	21	0.50%	11.20	4.65	27	1020.80	1020.67	1032.00	11.20
335	334	48	0.34	0.65	0.22	1.83	13	5.3	9.68	21	0.50%	11.20	4.65	26	1020.67	1020.54	1027.64	6.98
334	333	48	0.74	0.65	0.48	2.31	13	5.3	12.24	21	0.60%	12.26	5.10	152	1020.54	1019.62	1027.64	7.11
333	332	54	0.03	0.65	0.02	4.62	13	5.3	24.49	24	1.20%	24.76	7.88	95	1019.45	1018.31	1028.04	8.59
332	331	48	0.11	0.65	0.07	4.69	13	5.3	24.87	24	1.80%	30.33	9.65	258	1018.31	1013.67	1025.92	7.61
331	330	54	0.73	0.65	0.47	6.76	13	5.3	35.82	27	1.60%	39.14	9.84	141	1013.00	1010.75	1019.46	6.46
330	FES	54	0.45	0.65	0.30	8.42	13	5.3	44.61	36	0.45%	44.71	6.32	87	1006.39	1006.00	1017.54	11.15
fes 321	320		6.86	0.3	2.06	2.06	33	3.3	6.79	18	12.40%	36.96	20.92	42	1029.50	1024.29	1029.50	0.00
320	305	48	0.20	0.45	0.09	2.15	33	3.3	7.09	18	0.70%	8.78	4.97	30	1024.29	1024.08	1030.67	6.38
319	318		0.61	0.45	0.27	0.27	13	5.3	1.44	12	0.50%	2.52	3.21	26	1024.87	1024.74	1029.37	4.50
318	317		0.66	0.45	0.29	0.57	13	5.3	3.01	15	0.50%	4.56	3.72	72	1024.57	1024.21	1029.37	4.80
317	316		0.12	0.45	0.05	0.62	13	5.3	3.29	15	1.85%	8.78	7.15	71	1024.21	1022.90	1028.95	4.74
316	315	24x36	0.12	0.45	0.06	0.68	13	5.3	3.59	15	0.50%	4.56	3.72	29	1022.90	1022.75	1028.29	5.39
315	303	48	0.32	0.45	0.15	0.82	13	5.3	4.36	15	0.50%	4.56	3.72	77	1022.75	1022.37	1028.42	5.67
313	312	27	1.39	0.3	0.42	0.42	22	3.9	1.62	12	0.50%	2.52	3.21	121	1022.50	1021.90	1027.00	4.50
312	311	48	0.46	0.3	0.14	0.55	22	3.9	2.16	15	0.50%	4.56	3.72	116	1021.73	1021.15	1027.00	5.27
311	302	48	0.44	0.45	0.20	0.75	22	3.9	2.93	15	0.50%	4.56	3.72	26	1021.15	1021.02	1026.43	5.28
310	301	27	3.12	0.3	0.94	0.94	23	3.8	3.56	15	0.50%	4.56	3.72	70	1018.50	1018.15	1023.00	4.50
307	306	24x36	0.76	0.45	0.34	0.34	12	5.4	1.85	12	0.50%	2.52	3.21	38	1027.50	1027.31	1032.00	4.50
306	305	48	0.77	0.45	0.35	0.69	13	5.3	3.66	15	1.00%	6.45	5.26	147	1027.14	1025.67	1031.86	4.72
305	304	48	0.27	0.45	0.12	2.96	33	3.3	9.77	21	0.50%	11.20	4.65	120	1023.92	1023.32	1030.44	6.52
304	303	48	0.22	0.45	0.10	3.06	33	3.3	10.10	21	0.50%	11.20	4.65	120	1023.32	1022.72	1028.58	5.26
303	302	72	0.22	0.45	0.10	3.98	33	3.3	13.15	21	1.20%	17.34	7.21	79	1022.04	1021.09	1027.29	5.25
302	301	48	0.15	0.45	0.07	4.81	33	3.3	15.86	21	2.40%	24.53	10.20	163	1020.69	1016.77	1026.47	5.79
301	300	48	0.32	0.45	0.14	5.89	33	3.3	19.42	21	1.80%	21.24	8.83	85	1016.77	1015.24	1024.21	7.44
300	262	48	0.16	0.45	0.07	5.96	33	3.3	19.66	27	1.00%	30.95	7.78	101	1014.91	1013.90	1022.50	7.59
297	296	27	0.33	0.3	0.10	0.10	11	5.6	0.55	12	0.50%	2.52	3.21	137	1028.50	1027.82	1033.00	4.50
296	289	48	0.23	0.3	0.07	0.17	11	5.6	0.94	15	0.50%	4.56	3.72	53	1027.65	1027.38	1033.00	5.35
295	288	27	2.07	0.3	0.62	0.62	25	3.7	2.29	12	0.50%	2.52	3.21	48	1026.50	1026.26	1031.00	4.50
294	288	24x36	0.98	0.45	0.44	0.44	12	5.4	2.39	12	0.50%	2.52	3.21	34	1026.83	1026.66	1031.33	4.50
293	292	27	0.39	0.3	0.12	0.12	12	5.4	0.63	12	0.50%	2.52	3.21	138	1027.50	1026.81	1032.00	4.50
292	291	48	0.34	0.3	0.10	0.22	12	5.4	1.19	15	0.40%	4.08	3.33	159	1026.64	1026.01	1033.00	6.36
291	290	48	0.38	0.3	0.11	0.33	12	5.4	1.80	15	0.40%	4.08	3.33	137	1026.01	1025.46	1033.00	6.99
290	289	48	0.21	0.3	0.06	0.40	12	5.4	2.15	15	0.40%	4.08	3.33	81	1025.46	1025.14	1033.00	7.54
289	288	48	0.00	0.45	0.00	0.57	12	5.4	3.06	15	0.40%	4.08	3.33	200	1025.14	1024.34	1035.83	10.69
288	287	48	0.00	0.45	0.00	1.63	12	5.4	8.79	18	0.75%	9.09	5.14	41	1024.17	1023.86	1031.49	7.32
287	279	48	0.38	0.45	0.17	1.80	12	5.4	9.71	21	0.40%	10.01	4.16	119	1023.69	1023.22	1031.20	7.51

286	285	27	1.28	0.3	0.38	0.38	17	4.6	1.76	12	0.45%	2.39	3.04	160	1018.50	1017.78	1023.00	4.50
285	284	48	0.49	0.3	0.15	0.53	17	4.6	2.43	15	0.35%	3.82	3.11	143	1017.61	1017.11	1022.50	4.89
284	271	48	0.45	0.3	0.14	0.66	17	4.6	3.06	15	0.35%	3.82	3.11	85	1017.11	1016.82	1022.00	4.89
283	271	27	1.69	0.3	0.51	0.51	21	4	2.03	12	1.00%	3.56	4.53	210	1022.00	1019.90	1026.50	4.50
282	281	27	0.25	0.3	0.08	0.08	12	5.4	0.41	12	0.60%	2.76	3.51	150	1026.50	1025.60	1031.00	4.50
281	280	48	0.52	0.3	0.16	0.23	13	5.3	1.23	15	0.35%	3.82	3.11	138	1025.43	1024.95	1030.00	4.57
280	279	48	0.59	0.3	0.18	0.41	13	5.3	2.16	15	0.35%	3.82	3.11	136	1024.95	1024.47	1029.50	4.55
279	278	54	0.20	0.45	0.09	2.30	13	5.3	12.17	24	0.35%	13.37	4.26	26	1023.05	1022.96	1029.76	6.71
278	277	48	0.17	0.45	0.08	2.37	13	5.3	12.57	24	0.35%	13.37	4.26	85	1022.96	1022.66	1029.76	6.80
277	276	48	0.39	0.3	0.12	2.49	13	5.3	13.19	24	0.40%	14.30	4.55	148	1022.66	1022.07	1028.50	5.84
276	275	48	0.49	0.3	0.15	2.64	13	5.3	13.98	24	0.40%	14.30	4.55	171	1022.07	1021.39	1029.00	6.93
275	274	48	0.56	0.3	0.17	2.81	13	5.3	14.87	24	0.45%	15.16	4.83	196	1021.39	1020.51	1028.50	7.11
274	273	48	0.61	0.3	0.18	2.99	13	5.3	15.85	24	0.50%	15.98	5.09	109	1020.51	1019.96	1027.50	6.99
273	272	48	0.25	0.3	0.07	3.07	13	5.3	16.25	24	0.55%	16.76	5.34	158	1019.96	1019.09	1028.00	8.04
272	271	48	0.49	0.3	0.15	3.21	13	5.3	17.02	24	0.60%	17.51	5.57	110	1019.09	1018.43	1026.00	6.91
271	270	66	0.00	0.3	0.00	4.38	21	4	17.53	24	0.65%	18.22	5.80	80	1016.32	1015.80	1024.40	8.08
270	263	54	0.85	0.3	0.26	4.64	21	4	18.55	24	0.70%	18.91	6.02	160	1015.80	1014.68	1022.00	6.20
265	263	24x36	0.92	0.45	0.41	0.41	13	5.3	2.19	12	1.00%	3.56	4.53	72	1017.22	1016.50	1021.72	4.50
264	263	24x36	0.79	0.45	0.36	0.36	11	5.6	2.00	12	0.60%	2.76	3.51	239	1017.97	1016.54	1022.47	4.50
263	262	60	0.61	0.45	0.28	5.69	21	4	22.74	27	0.55%	22.95	5.77	62	1014.51	1014.17	1021.28	6.77
262	261	66	0.27	0.45	0.12	11.77	33	3.3	38.83	33	0.55%	39.19	6.60	57	1013.57	1013.25	1021.05	7.48
261	260	54	0.72	0.45	0.32	12.09	33	3.3	39.90	33	0.60%	40.93	6.89	84	1013.25	1012.75	1020.97	7.72
260	FES	60	0.00	0.3	0.00	12.09	33	3.3	39.90	36	0.40%	42.15	5.96	88	1006.35	1006.00	1021.00	14.65
257	255	Det. G	1.64	0.30	0.49	0.49	19	4.3	2.11	12	0.45%	2.39	3.04	46	1014.00	1013.79	1018.50	4.50
256	255	Det. G	3.27	0.30	0.37	0.37	29	4.2	1.53	12	0.45%	2.39	3.04	59	1012.50	1012.23	1017.00	4.50
255	246	48	0.00	0.45	0.00	0.86	29	4.2	3.59	15	0.45%	4.33	3.53	150	1012.07	1011.39	1019.52	7.45
250	240	Det. G	1.62	0.30	0.49	0.49	29	4.2	2.04	12	1.15%	3.82	4.86	200	1011.90	1008.70	1015.50	4.50
6900 247	246				0.00	0.00	29	4.2	0.00	36	1.00%	179.38	24.95	57	1016.50	1012.31	1016.50	0.00
246	245	60	0.30	0.45	0.03	0.94	29	4.2	3.96	36	0.40%	42.15	5.96	26	1010.25	1010.12	1015.51	4.89
245	244	60	0.22	0.45	0.11	1.04	29	4.2	4.37	36	0.40%	42.15	5.96	84	1010.12	1009.78	1015.51	4.89
244	243	60	0.45	0.45	0.13	1.17	29	4.2	4.93	36	0.40%	42.15	5.96	145	1009.78	1009.21	1015.50	4.89
243	242	60	0.36	0.30	0.11	1.28	29	4.2	5.37	36	0.40%	42.15	5.96	120	1009.21	1008.73	1015.50	4.89
242	241	60	0.37	0.30	0.11	1.39	29	4.2	5.84	36	0.40%	42.15	5.96	138	1008.73	1008.18	1017.50	6.91
241	240	60	0.54	0.30	0.16	1.55	29	4.2	6.51	36	0.40%	42.15	5.96	120	1008.18	1007.70	1016.00	7.32
240	FES	60	0.22	0.30	0.08	2.12	29	4.2	8.90	36	0.30%	30.50	5.16	46	1006.14	1006.00	1015.20	7.06
226	220	48	0.81	0.30	0.24	0.24	15	4.9	1.20	12	1.15%	3.82	4.86	135	1012.50	1010.95	1017.00	4.50
225	224	48	1.00	0.30	0.30	0.30	17	4.6	1.38	12	2.40%	5.52	7.02	130	1017.50	1014.38	1022.00	4.50
224	223	48	0.89	0.30	0.27	0.57	19	4.3	2.43	15	0.50%	4.56	3.72	147	1014.21	1013.48	1020.00	5.79
223	222	48	0.86	0.45	0.39	0.95	19	4.3	4.09	15	0.50%	4.56	3.72	37	1013.48	1013.29	1020.67	7.19

222	221	48	0.92	0.45	0.42	1.37	19	4.3	5.88	15	1.20%	7.07	5.76	137	1013.29	1011.65	1019.92	6.63
221	220	48	0.33	0.30	0.10	1.47	19	4.3	6.30	18	0.40%	6.64	3.76	180	1011.48	1010.76	1016.00	4.52
220	219	48	0.72	0.30	0.22	1.93	19	4.3	8.28	21	0.30%	8.67	3.61	156	1010.60	1010.13	1015.50	4.90
219	218	48	0.76	0.45	0.34	2.27	19	4.3	9.76	24	0.30%	12.38	3.94	41	1009.96	1009.84	1016.88	6.92
218	217	48	1.18	0.45	0.53	2.80	19	4.3	12.04	24	0.30%	12.38	3.94	170	1009.84	1009.33	1017.42	7.58
217	216	48	1.03	0.30	0.31	3.11	19	4.3	13.37	24	0.35%	13.37	4.26	191	1009.33	1008.66	1015.00	5.67
216	215	48	0.63	0.30	0.19	3.30	19	4.3	14.19	24	0.40%	14.30	4.55	189	1008.66	1007.90	1015.00	6.34
215	214	48	0.41	0.30	0.12	3.42	19	4.3	14.71	24	0.45%	15.16	4.83	65	1007.90	1007.61	1015.00	7.10
214	213	48	0.21	0.45	0.09	3.52	19	4.3	15.12	27	0.30%	16.95	4.26	26	1007.44	1007.37	1015.61	8.17
213	212	48	0.23	0.45	0.10	3.62	19	4.3	15.56	27	0.30%	16.95	4.26	96	1007.37	1007.08	1015.61	8.24
212	211	48	0.51	0.30	0.15	3.77	19	4.3	16.22	27	0.30%	16.95	4.26	89	1007.08	1006.81	1014.00	6.92
211	210	48	0.32	0.30	0.10	3.87	19	4.3	15.64	27	0.30%	16.95	4.26	166	1006.81	1006.31	1014.00	7.19
210	FES	48	0.57	0.30	0.17	4.04	19	4.3	17.37	27	0.35%	18.31	4.60	86	1006.31	1006.01	1012.50	6.19
206	205	Des. G	0.27	0.3	0.08	0.08	14	5.1	0.42	12	0.30%	2.52	3.21	130	1009.50	1008.85	1014.00	4.50
205	201	48	0.22	0.3	0.06	0.15	14	5.1	0.75	15	1.80%	8.66	7.96	126	1008.68	1006.42	1013.50	4.82
204	203	Des. G	2.72	0.45	1.22	1.22	21	4	4.90	18	0.45%	7.04	3.98	153	1007.91	1007.22	1012.50	4.59
203	202	48	0.35	0.45	0.25	1.47	21	4	5.89	18	0.50%	7.42	4.20	107	1007.22	1006.69	1012.50	5.28
202	201	48	0.91	0.45	0.41	1.88	21	4	7.52	21	0.25%	7.92	3.29	185	1006.52	1006.06	1012.00	5.48
201	FES	48	0.00	0.3	0.00	2.03	21	4	8.11	21	0.30%	8.67	3.61	20	1006.06	1006.00	1012.00	5.94
st188	185		3.95	0.75	2.97	2.97	12	5.4	16.02	24	0.70%	18.91	6.02	27	1000.43	1000.24	1007.00	6.57
st187	186		1.13	0.45	0.51	0.51	12	5.4	2.75	15	0.50%	4.56	3.72	27	1001.00	1000.87	1007.00	6.00
186	185	48	0.32	0.45	0.14	0.65	12	5.4	3.53	15	0.50%	4.56	3.72	26	1000.87	1000.74	1006.92	6.05
185	182	54	0.84	0.45	0.38	4.00	12	5.4	21.59	27	0.50%	21.88	5.50	226	1000.07	998.94	1006.92	6.85
st183	182		4.71	0.75	3.54	3.54	12	5.4	19.09	27	0.50%	21.88	5.50	30	999.10	998.95	1007.00	7.90
182	181	66	0.39	0.45	0.18	7.71	12	5.4	41.64	33	0.65%	42.60	7.17	26	998.61	998.44	1004.65	6.04
181	180	54	0.18	0.45	0.08	7.79	12	5.4	42.07	33	0.65%	42.60	7.17	264	998.44	996.72	1004.67	6.23
180	FES	54	0.00	0.3	0.00	7.79	12	5.4	42.07	36	0.40%	42.15	5.96	43	994.17	994.00	1004.00	9.83
p200 173	172		0.00	0.30	0.00	0.00		0	0.00	48	0.50%	101.49	8.08	54	1006.00	1005.73	1006.00	0.00
172	170	96	0.00	0.45	0.00	0.00		0	0.00	48	0.50%	101.49	8.08	86	1005.73	1005.30	1012.77	7.04
171	170	24x36	0.07	0.45	0.03	0.03	10	5.8	0.18	12	1.00%	3.56	4.53	39	1007.69	1007.30	1012.19	4.50
170	302	78	0.05	0.45	0.02	0.05	10	5.8	0.31	48	0.50%	101.49	8.08	90	1005.30	1004.85	1012.26	6.96
st167	166		0.74	0.45	0.33	0.33	12	5.4	1.80	15	0.50%	4.56	3.72	37	1004.50	1004.32	1011.00	6.50
166	165	48	0.45	0.45	0.20	0.54	12	5.4	2.50	15	0.50%	4.56	3.72	22	1004.32	1004.21	1010.39	5.88
165	160	48	0.10	0.45	0.04	0.58	12	5.4	3.14	15	0.50%	4.56	3.72	38	1004.21	1004.02	1010.33	6.13
st163	162		1.63	0.45	0.73	0.73	12	5.4	3.96	15	0.50%	4.56	3.72	28	1007.65	1007.51	1013.00	5.35
162	161	48	0.15	0.45	0.07	0.80	12	5.4	4.33	15	0.50%	4.56	3.72	60	1007.51	1007.21	1012.35	4.84
161	160	48	0.15	0.45	0.07	0.87	12	5.4	4.70	18	1.20%	11.50	6.51	248	1007.04	1004.07	1012.57	5.53
160	102	48	0.52	0.45	0.23	1.69	12	5.4	9.10	18	0.80%	9.39	5.31	163	1003.85	1002.54	1009.97	6.12

159	157	24x36	5.25	0.30	1.58	1.58	26	3.4	5.36	15	0.70%	5.40	4.40	51	1011.32	1010.96	1015.82	4.50
158	110	48	0.71	0.45	0.32	1.90	26	3.7	7.01	15	1.60%	8.16	6.65	165	1010.96	1008.32	1015.82	4.86
157	151	24x36	4.49	0.45	2.02	2.02	27	3.3	6.66	12	1.00%	3.56	4.53	10	1005.40	1005.30	1009.90	4.50
156	155	24x36	0.51	0.45	0.23	0.23	11	5.6	1.29	12	1.50%	4.36	5.55	46	1008.73	1008.04	1013.23	4.50
155	152	48	0.73	0.45	0.33	0.56	11	5.6	3.13	15	1.30%	7.36	6.00	120	1007.87	1006.31	1012.65	4.78
154	152	Des. G	0.27	0.45	0.12	0.12	11	5.6	0.68	12	0.50%	2.52	3.21	27	1006.57	1006.44	1011.07	4.50
153	152	48	0.55	0.45	0.25	0.25	11	5.6	1.38	12	6.00%	8.72	11.10	31	1008.50	1006.64	1013.00	4.50
152	151	48	0.08	0.45	0.04	0.96	11	5.6	5.40	15	1.80%	8.66	7.06	48	1006.27	1005.40	1011.14	4.87
151	150	48	0.08	0.45	0.03	3.02	27	3.3	9.96	18	0.90%	9.96	5.63	38	1005.24	1004.90	1009.85	4.61
150	109	48	0.10	0.45	0.04	3.06	27	3.3	10.10	21	0.45%	10.62	4.42	22	1004.73	1004.63	1010.21	5.48
148	109		1.70	0.75	1.27	1.27	14	5.1	6.49	18	0.50%	7.42	4.20	33	1004.80	1004.64	1011.00	6.20
146	145	24x36	0.79	0.45	0.36	0.36	10	5.8	2.06	12	0.50%	2.52	3.21	26	1004.69	1004.56	1009.19	4.50
145	108	48	0.07	0.45	0.03	0.39	10	5.8	2.25	15	0.50%	4.56	3.72	38	1004.39	1004.20	1009.33	4.94
st140	106		1.00	0.75	0.75	0.75	13	5.3	3.96	18	0.50%	7.42	4.20	32	1001.40	1001.24	1009.00	7.60
139	138	Des. G	1.31	0.30	0.39	0.39	19	4.3	1.70	12	0.50%	2.52	3.21	260	1007.50	1006.20	1012.00	4.50
138	137	48	0.24	0.30	0.07	0.47	19	4.3	2.00	15	0.50%	4.56	3.72	118	1006.03	1005.44	1014.50	8.47
137	136	48	0.33	0.30	0.10	0.57	19	4.3	2.43	15	2.00%	9.13	7.44	104	1005.44	1003.36	1014.00	8.56
136	135	48	0.80	0.45	0.36	0.93	19	4.3	3.99	15	0.50%	4.56	3.72	38	1003.36	1003.17	1008.47	5.11
135	106	48	0.08	0.45	0.03	0.96	19	4.3	4.14	15	0.50%	4.56	3.72	22	1003.17	1003.06	1008.83	5.66
131	130	24x36	0.48	0.45	0.21	0.21	11	5.6	1.20	12	0.50%	2.52	3.21	55	1006.00	1005.73	1010.50	4.50
130	105	48	0.40	0.45	0.18	0.39	11	5.6	2.21	15	0.50%	4.56	3.72	91	1005.56	1005.10	1010.75	5.19
126	125	24x36	0.67	0.45	0.30	0.30	11	5.6	1.68	12	0.50%	2.52	3.21	22	1004.15	1004.04	1008.65	4.50
125	104	48	0.08	0.45	0.04	0.34	11	5.6	1.88	15	0.50%	4.56	3.72	38	1003.87	1003.68	1008.79	4.92
121	120	24x36	0.41	0.45	0.19	0.19	10	5.8	1.08	12	0.50%	2.52	3.21	38	1005.85	1005.66	1010.35	4.50
120	103	48	0.09	0.45	0.04	0.23	10	5.8	1.32	15	0.50%	4.56	3.72	22	1005.49	1005.38	1010.71	5.22
111	110	Des. G	1.13	0.30	0.34	0.34	21	4	1.35	12	1.00%	3.56	4.53	91	1009.50	1008.59	1014.00	4.50
110	109	48	0.23	0.45	0.10	2.34	26	3.4	7.94	18	1.00%	10.50	5.94	272	1008.16	1005.44	1013.15	4.99
109	108	48	0.51	0.45	0.23	6.90	27	3.3	22.76	30	0.40%	25.92	5.28	261	1002.96	1001.92	1010.07	7.11
108	107	48	0.33	0.45	0.15	7.43	27	3.3	24.52	30	0.40%	25.92	5.28	293	1001.92	1000.75	1008.97	7.05
107	106	48	0.16	0.45	0.07	7.50	27	3.3	24.74	30	0.40%	25.92	5.28	127	1000.75	1000.24	1009.32	8.57
106	105	60	0.35	0.45	0.16	9.37	27	3.3	30.91	33	0.35%	31.26	5.26	221	1000.07	999.30	1008.69	8.62
105	104	60	0.06	0.45	0.03	9.79	27	3.3	32.30	33	0.45%	35.45	5.97	155	999.30	998.60	1009.37	10.07
104	103	60	0.21	0.45	0.10	10.22	27	3.3	33.73	33	0.45%	35.45	5.97	209	998.60	997.66	1008.43	9.83
103	102	60	0.41	0.45	0.19	10.64	27	3.3	35.10	33	0.50%	37.37	6.29	170	997.66	996.81	1010.57	12.91
102	101	102	0.00	0.45	0.00	12.37	27	3.3	40.84	48	0.45%	96.28	7.66	377	995.98	994.28	1011.62	15.64
101	FES	78	0.00	0.30	0.00	12.37	27	3.3	40.84	48	0.20%	64.19	5.11	35	994.28	994.21	1004.00	9.72

P100	OCS 100									42				52	990.00	993.00	980.00	0.00
OCS 100	FES	66								42				58	995.00	994.50	100.70	7.70
P100	1400									24	0.20%	10.11	3.22	71	994.50	994.36	994.50	0.00
1400	FES ONE 400									48	0.18%	9.67	3.08	194	994.36	994.00	1005.00	10.64
1401	FES									15	0.50%			62	992.30	992.00	999.00	6.70
CULV. #1	CULVERT #1									18	0.79%			126	1009.50	1008.50		
CULV. #2	CULVERT #2									12	1.14%			44	1013.00	1012.50		
CULV. #3	CULVERT #3									12	0.26%			46	1019.50	1018.00		
CULV. #4	CULVERT #4									12	2.17%			46	1028.50	1027.50		
CULV. #5	CULVERT #5									12	0.68%			73	1023.50	1023.00		
CULV. #6	CULVERT #6									12	2.86%			35	1029.00	1028.00		
CULV. #7	CULVERT #7									12	2.33%			43	1032.50	1031.50		



LEGEND

CATCHMENT LINE

166 STRUCTURE NUMBER

N

0 150 300

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Save Date: 03/03/15 F:\Jobs\5161 - 5180\5172 - lake elmo property\cad\engineer\5172_stm_swr_catchment.dwg

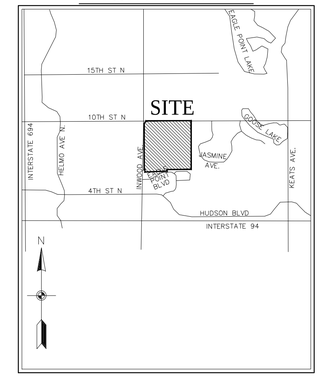
INWOOD 1ST ADDTION

SANITARY SEWER, WATER MAIN, STORM SEWER AND STREET CONSTRUCTION PLANS

Lake Elmo, Minnesota

SHEET INDEX

VICINITY MAP



NOT TO SCALE

N

0 100 200 400

(IN FEET)

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Print Name: Brian J. Krystofiak, P.E.
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Date: 3/24/15 License #: 25063

Drawn: JJO
Designed: BJK
Date: 3/24/15

Revisions:
1.

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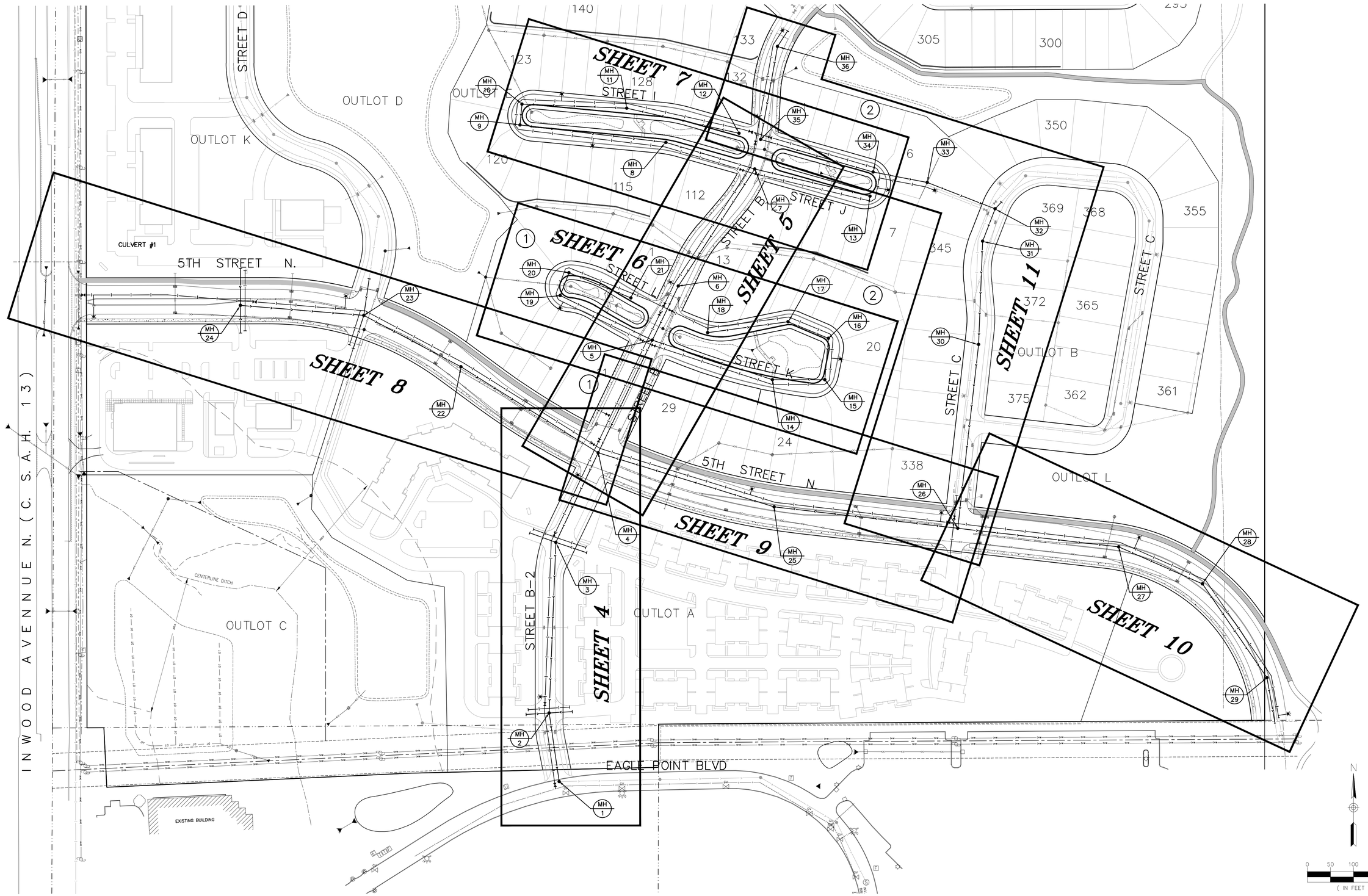
INWOOD 1ST ADDITION
Lake Elmo, Minnesota

COVER

1 of 33



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Lake Elmo, Minnesota

SANITARY SEWER & WATERMAIN
INDEX

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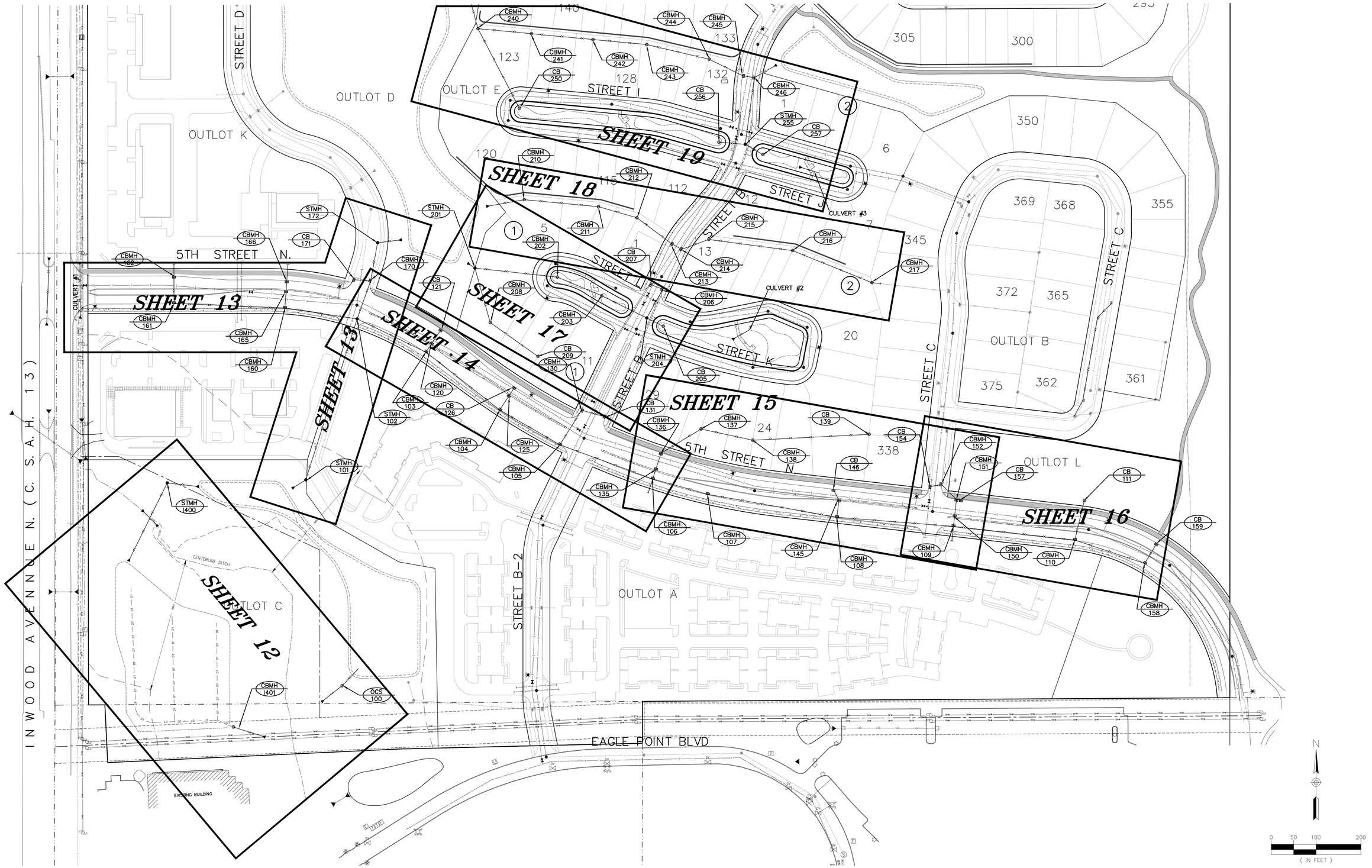

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STORM SEWER INDEX

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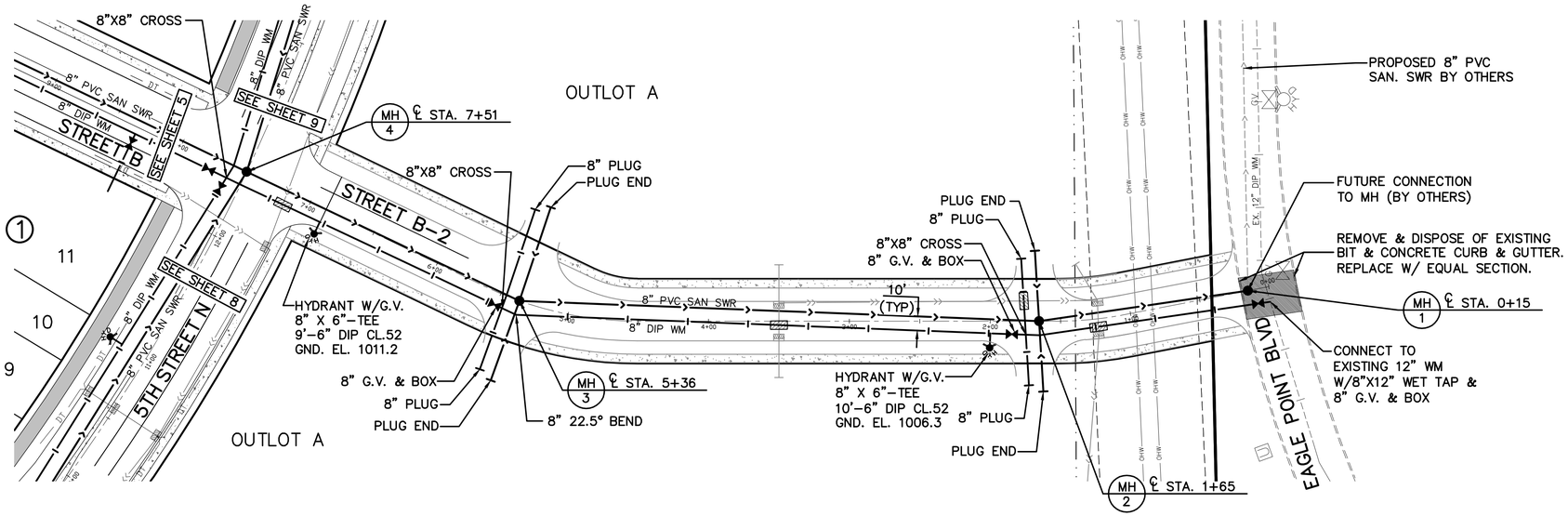

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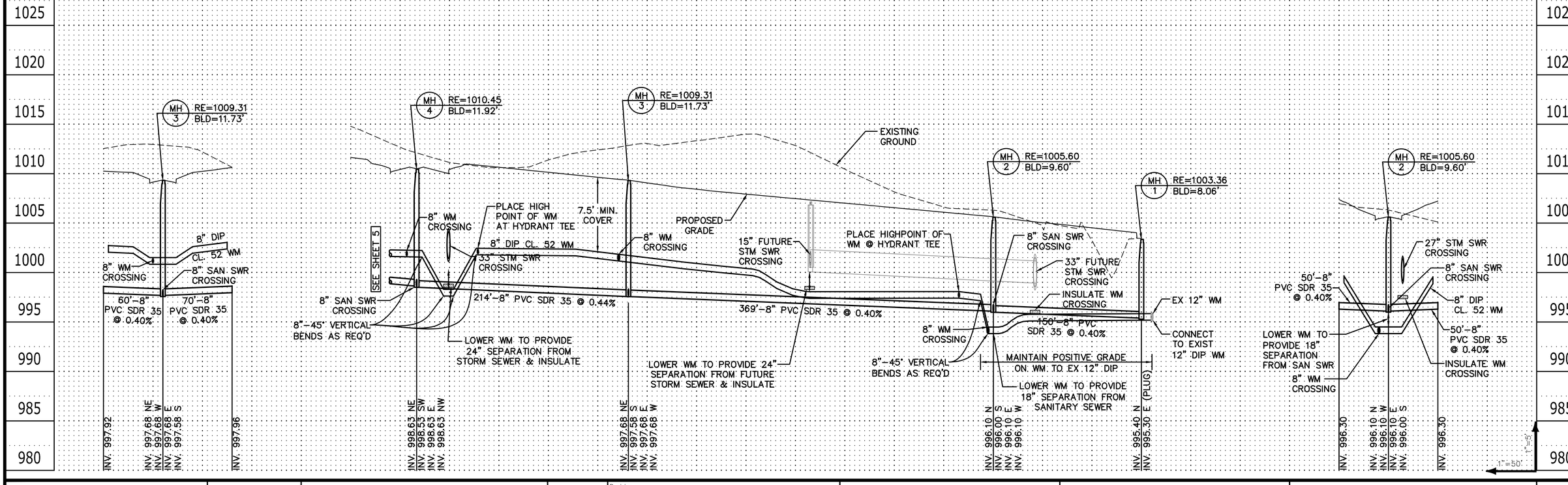
STREET B-2



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SANITARY SEWER & WATER MAIN

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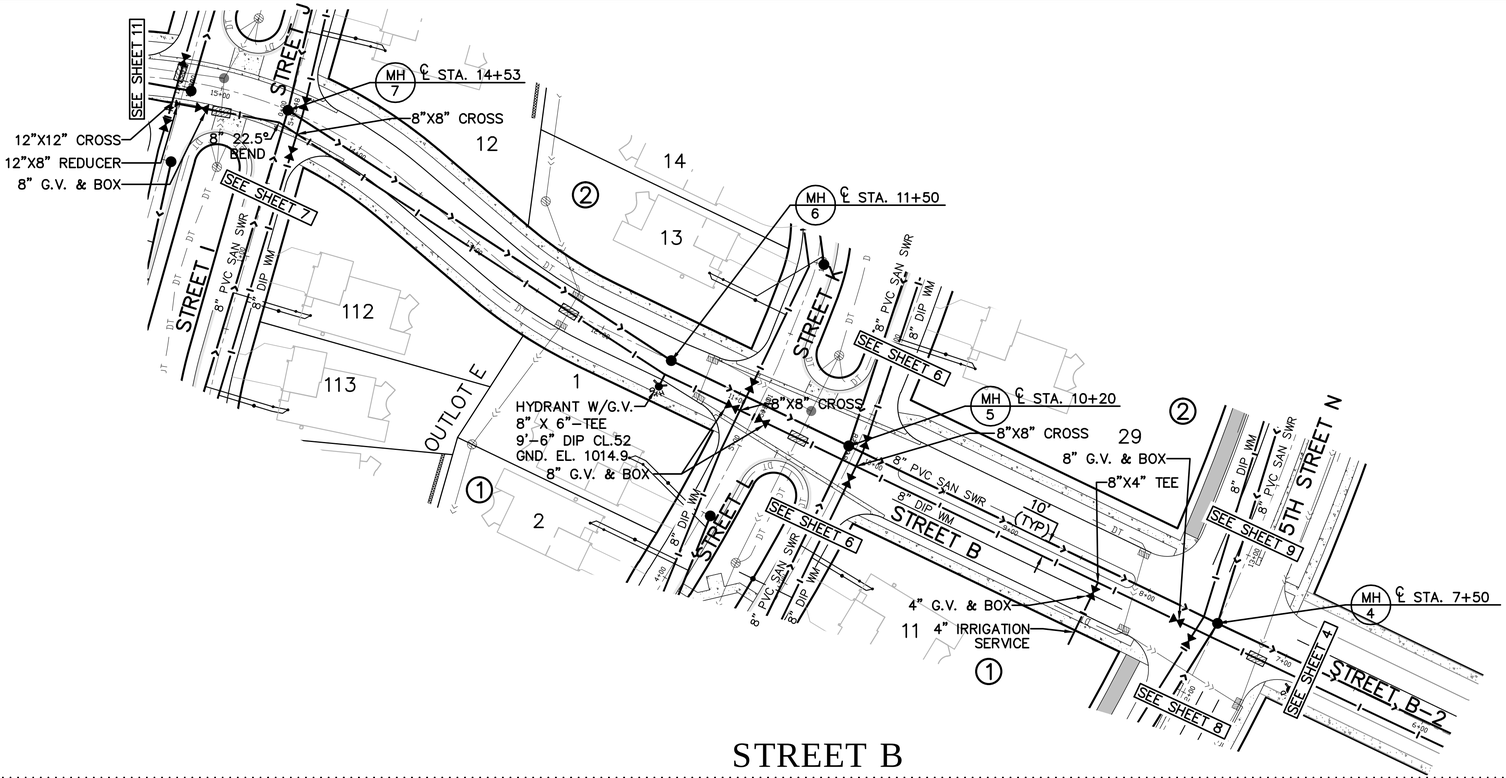
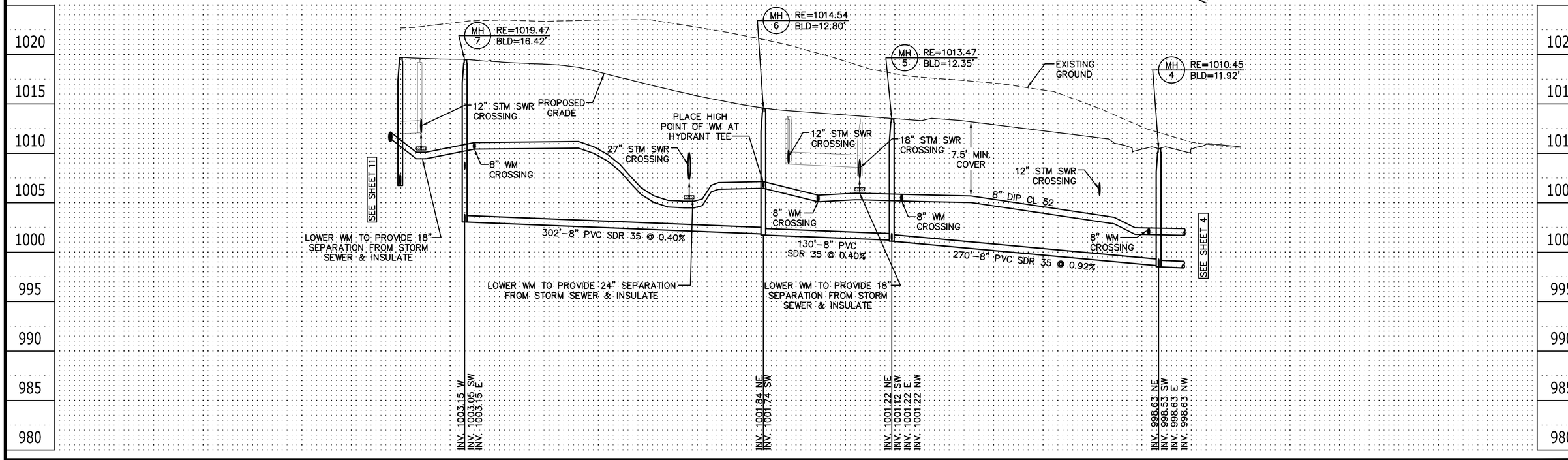
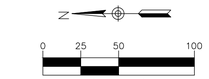


STREET B





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GENERAL NOTES:

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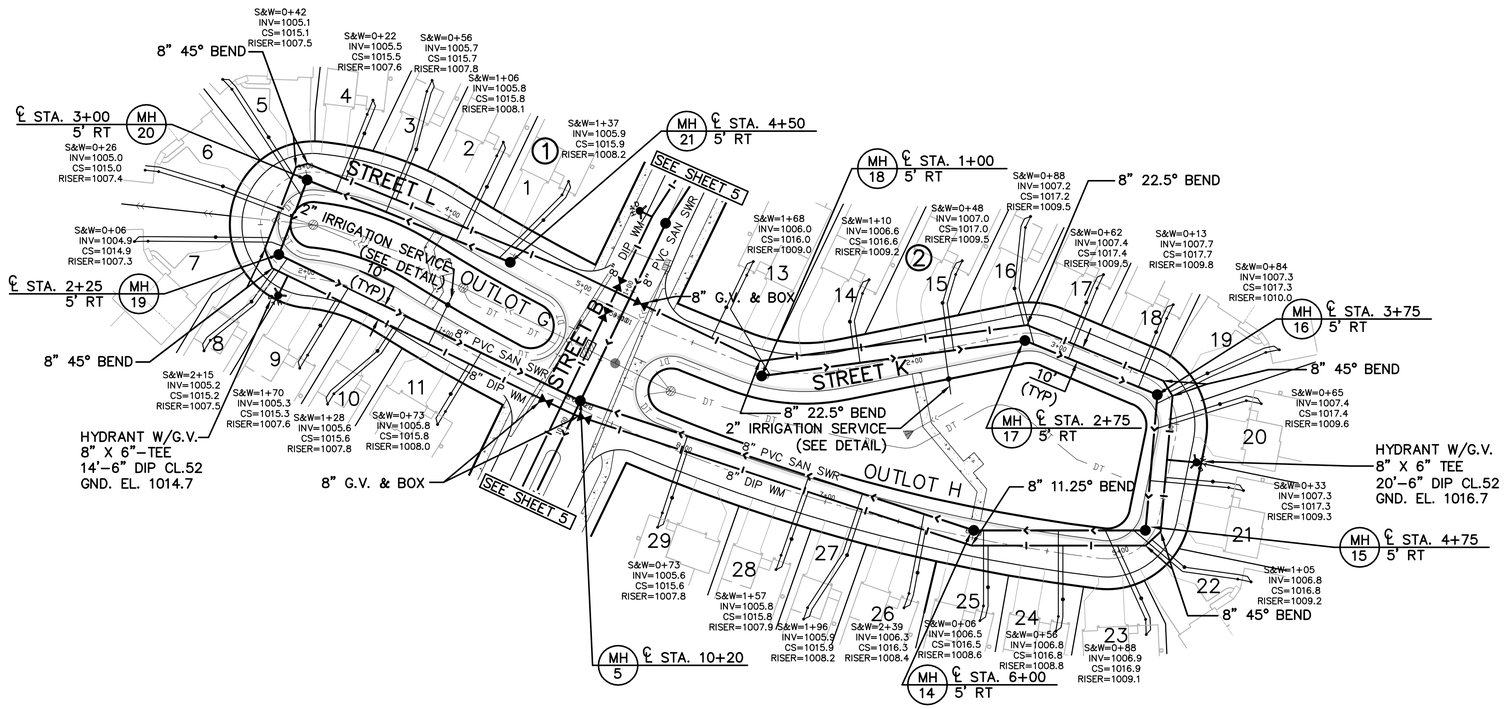

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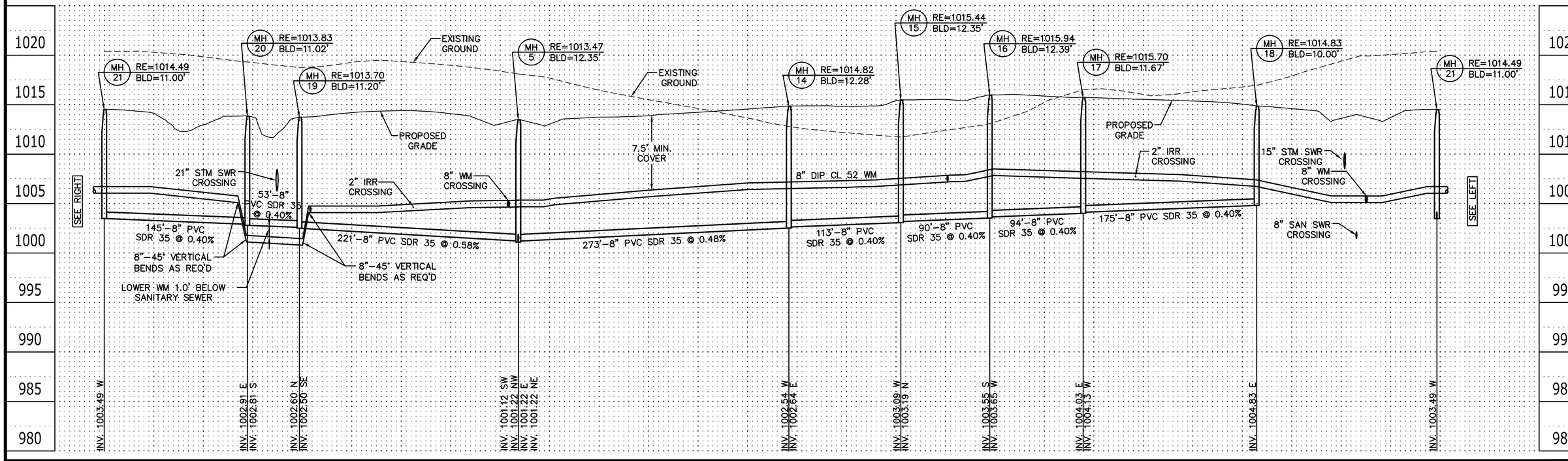

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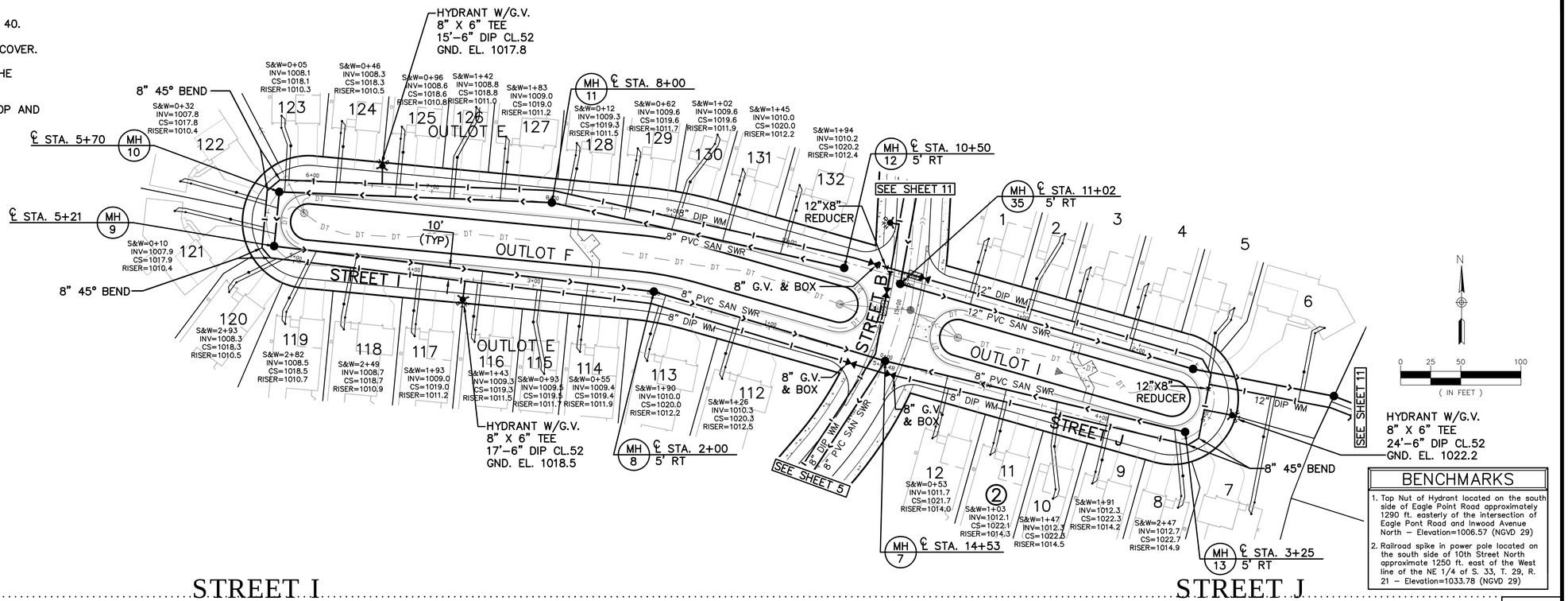

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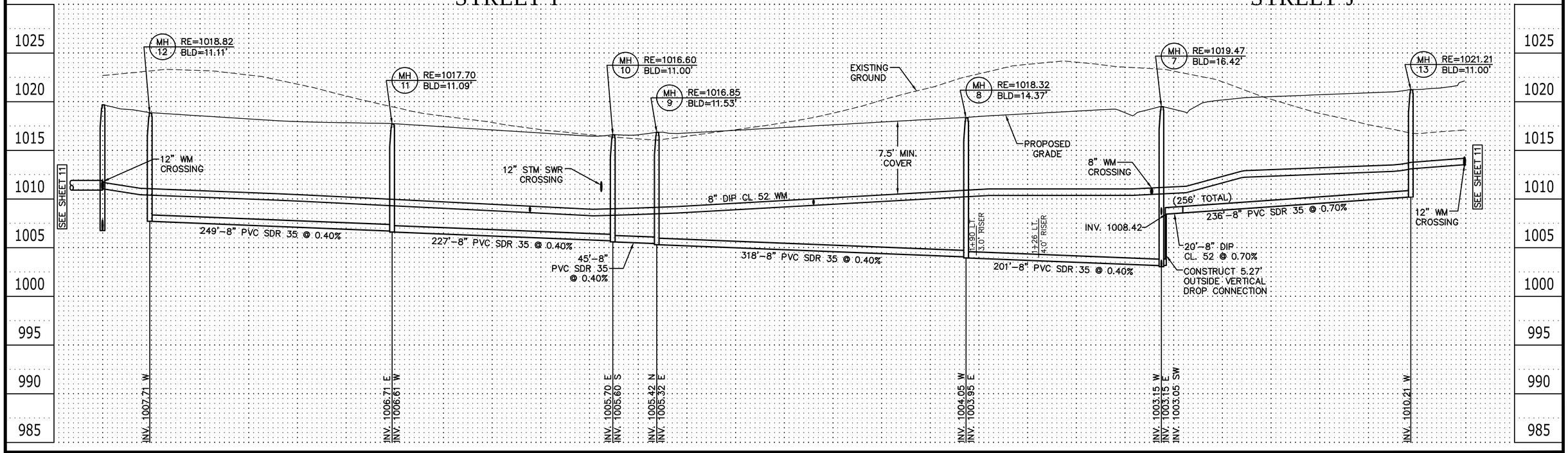
STREET I

STREET J



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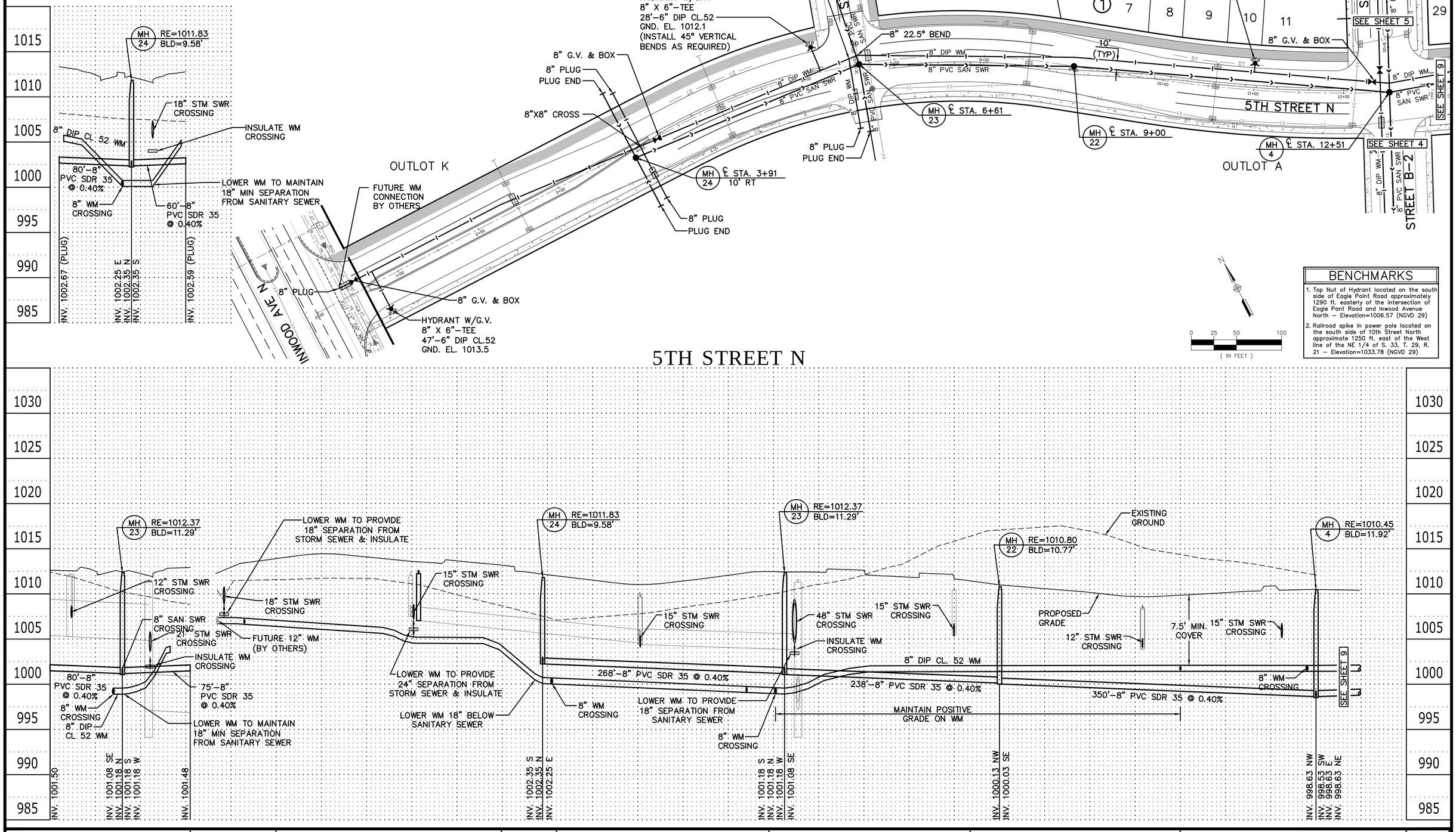

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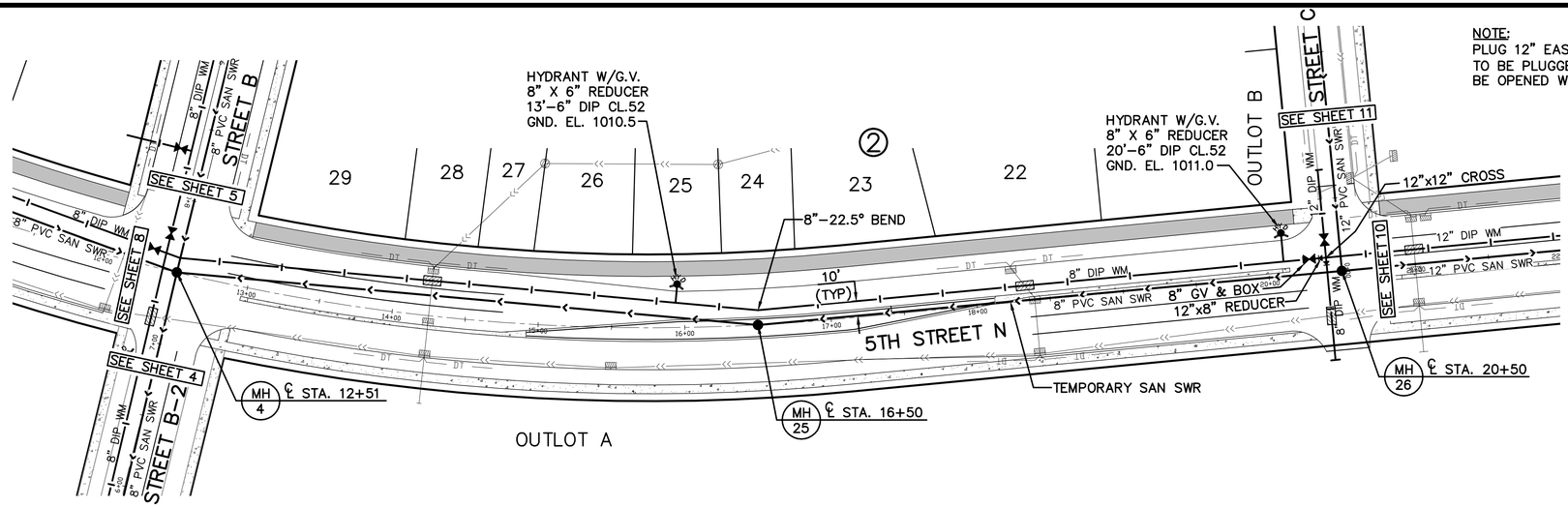

NOTE:
PLUG 12" EAST MH 26 INV. TEMPORARY 8" SAN SWR TO BE PLUGGED & ABANDONED & 12' EAST PIPE TO BE OPENED WHEN FUTURE CONNECTION IS COMPLETED.

N

0 25 50 100
(IN FEET)

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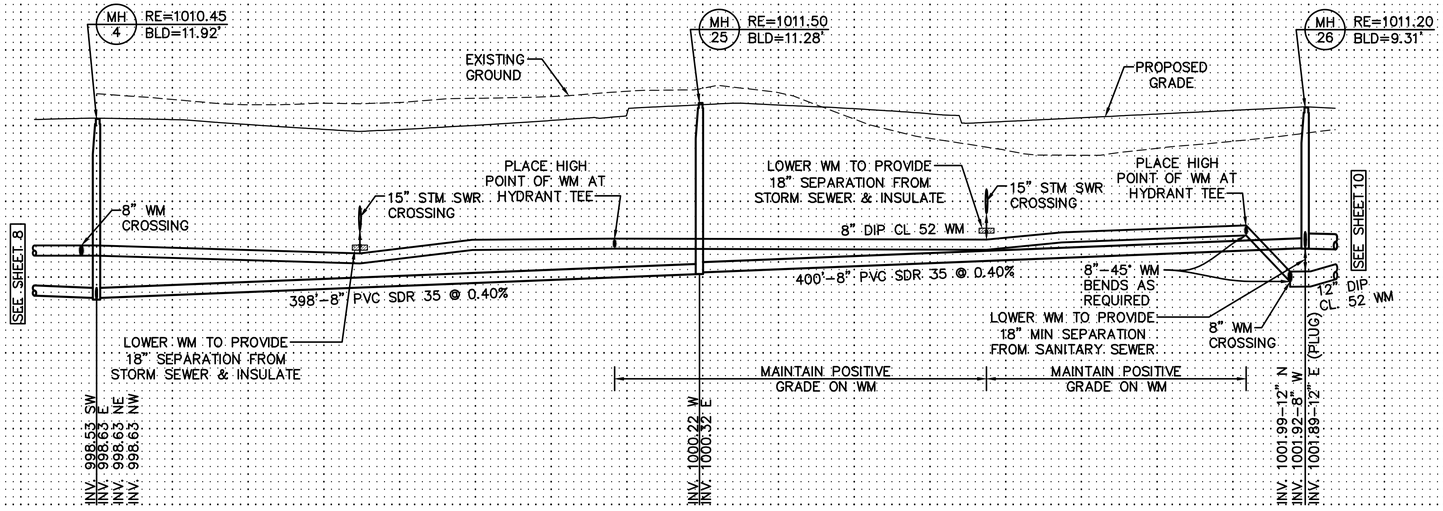
5TH STREET N



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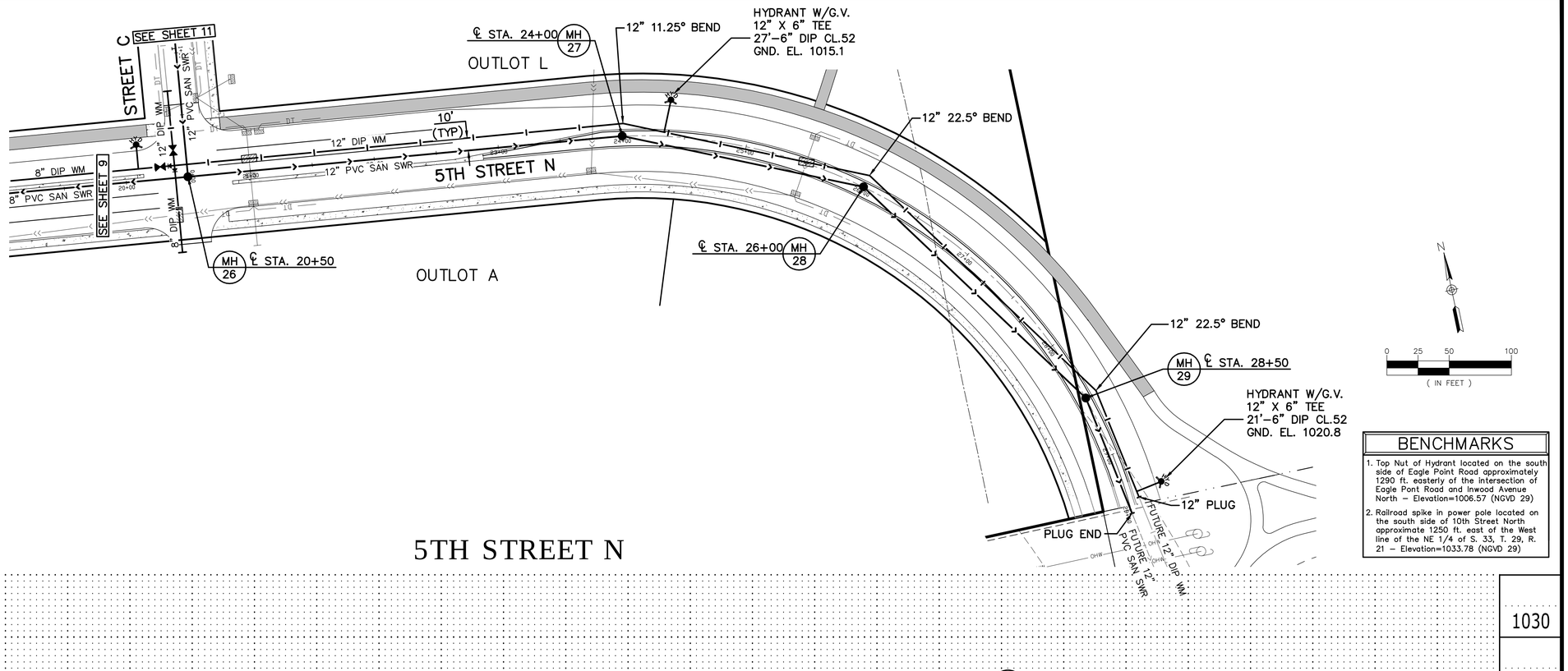

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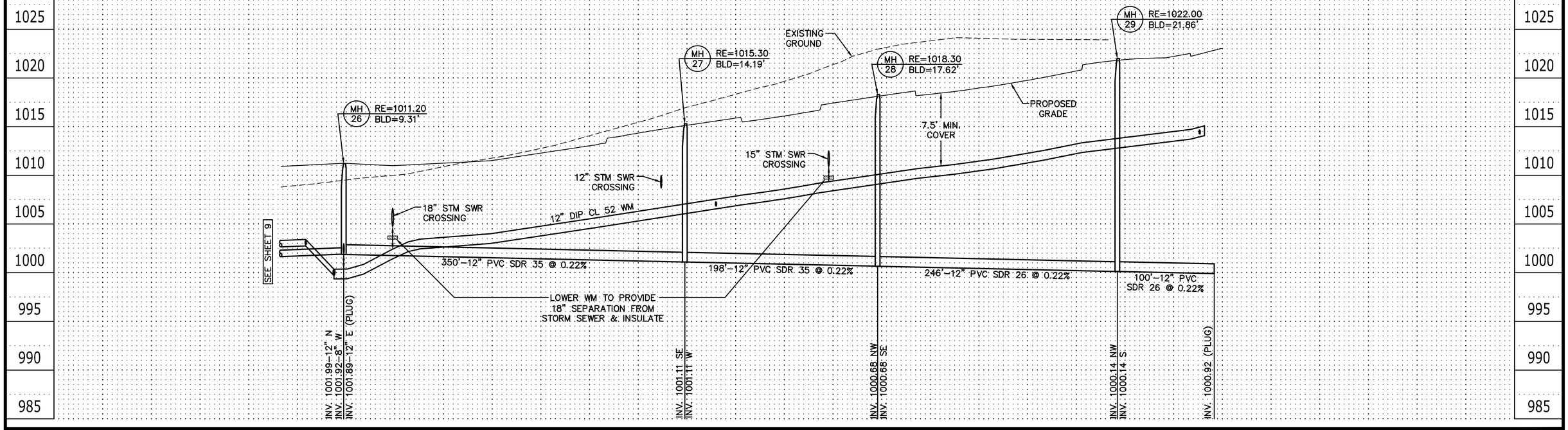

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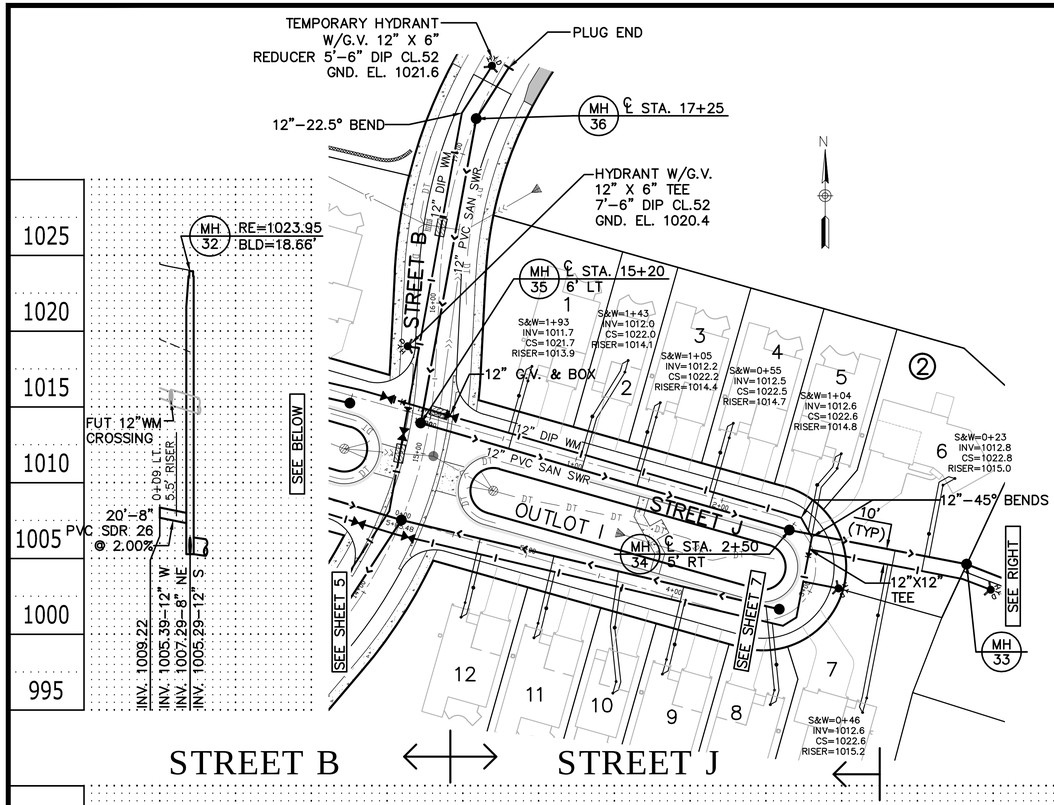
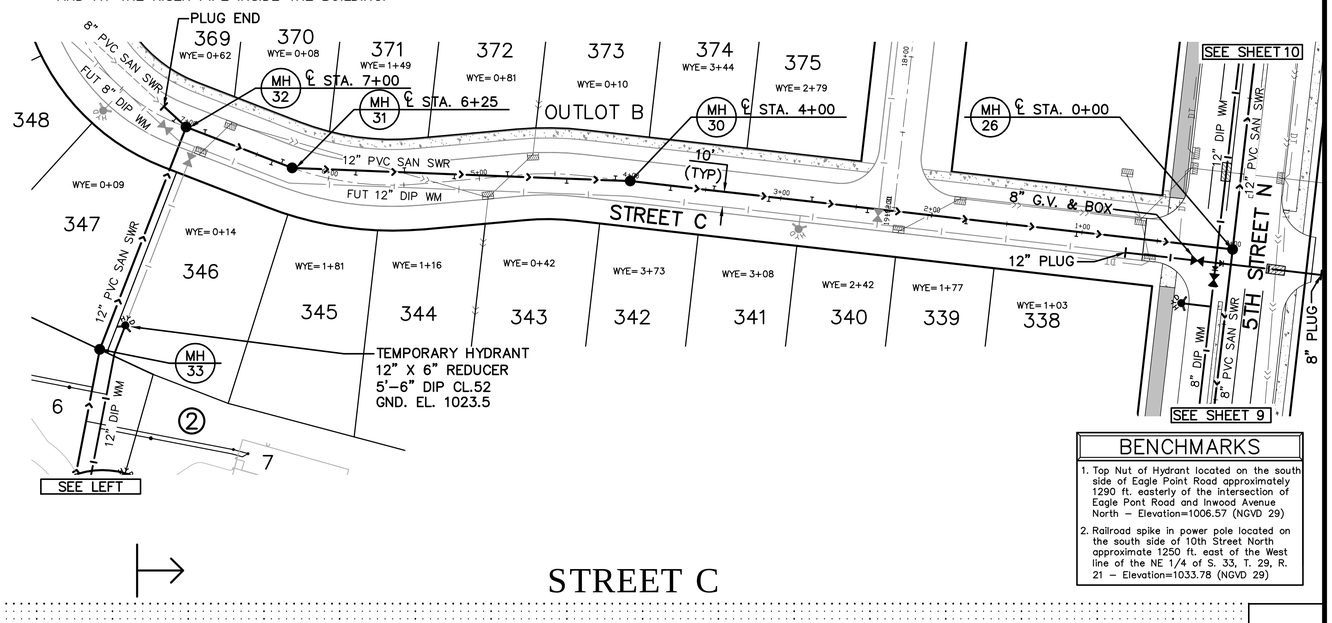
*NOTE: SERVICE WYES & RISERS FOR LOTS 338-347 & 370-375 SHALL BE SDR 26.





STREET B ⟷ STREET J → STREET C

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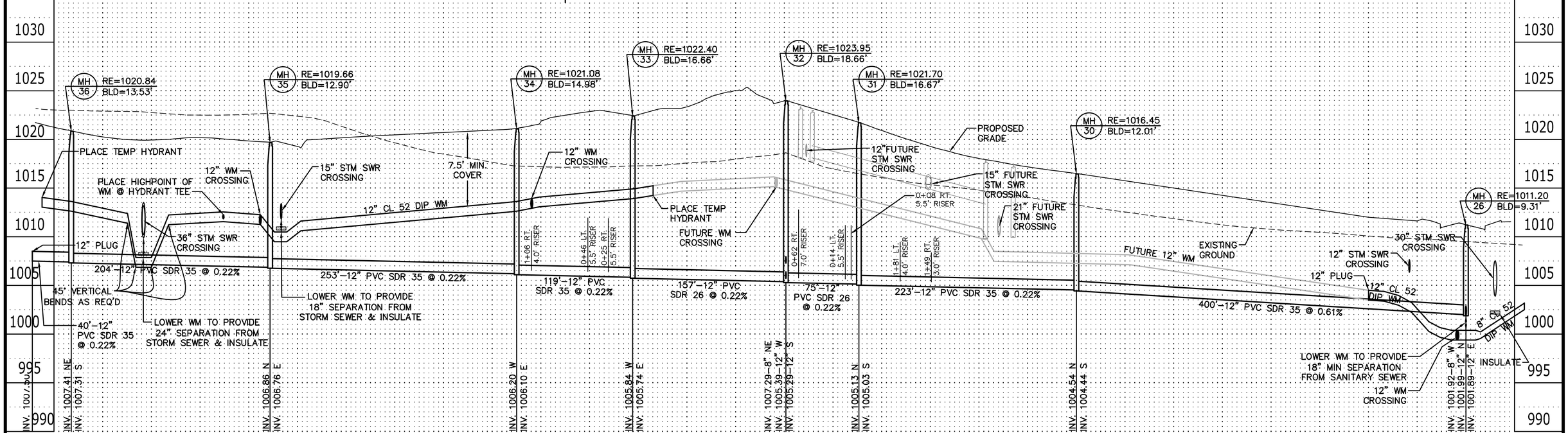

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Print Name: Brian J. Krystofiak, P.E.
Signature:
Date: 3/24/15 License #: 25063

Drawn: JJO
Designed: BJK
Date: 3/24/15

Revisions:

HANS HAGEN HOMES
941 NE Hillwind Rd., Suite 300
Fridley, MN 55432

INWOOD 1ST ADDITION
Lake Elmo, Minnesota

SANITARY SEWER & WATER MAIN

11 of 33

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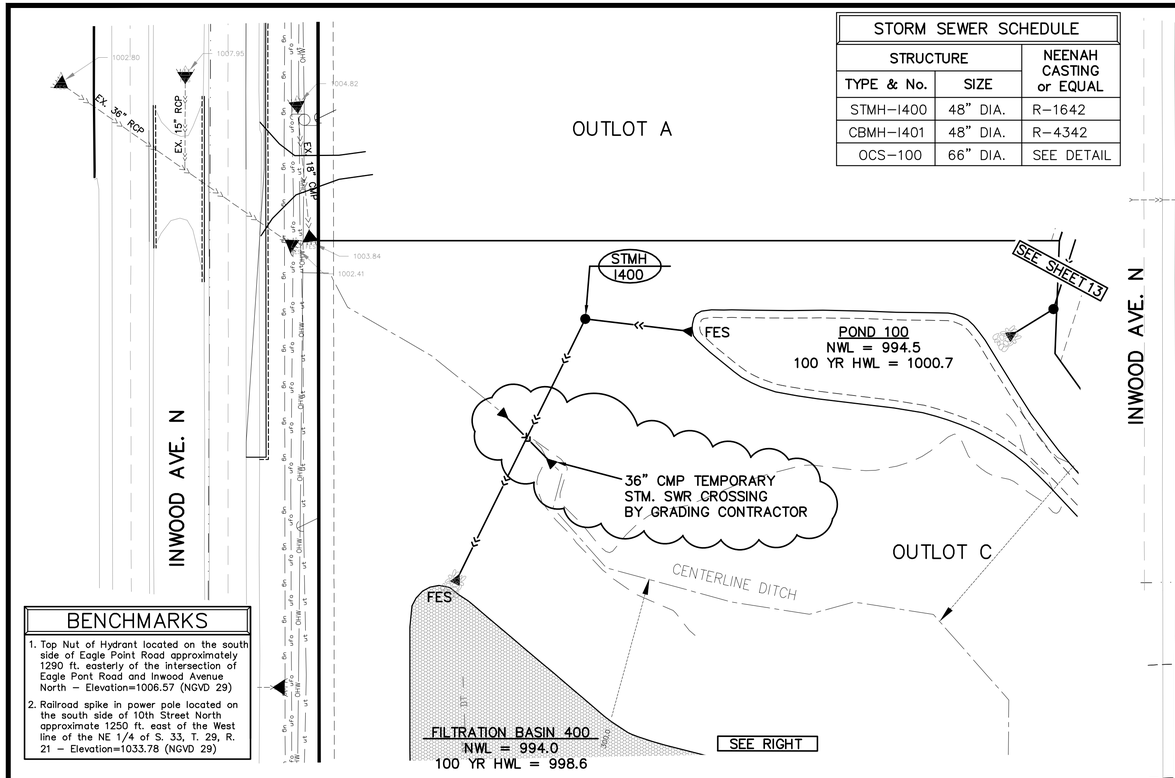
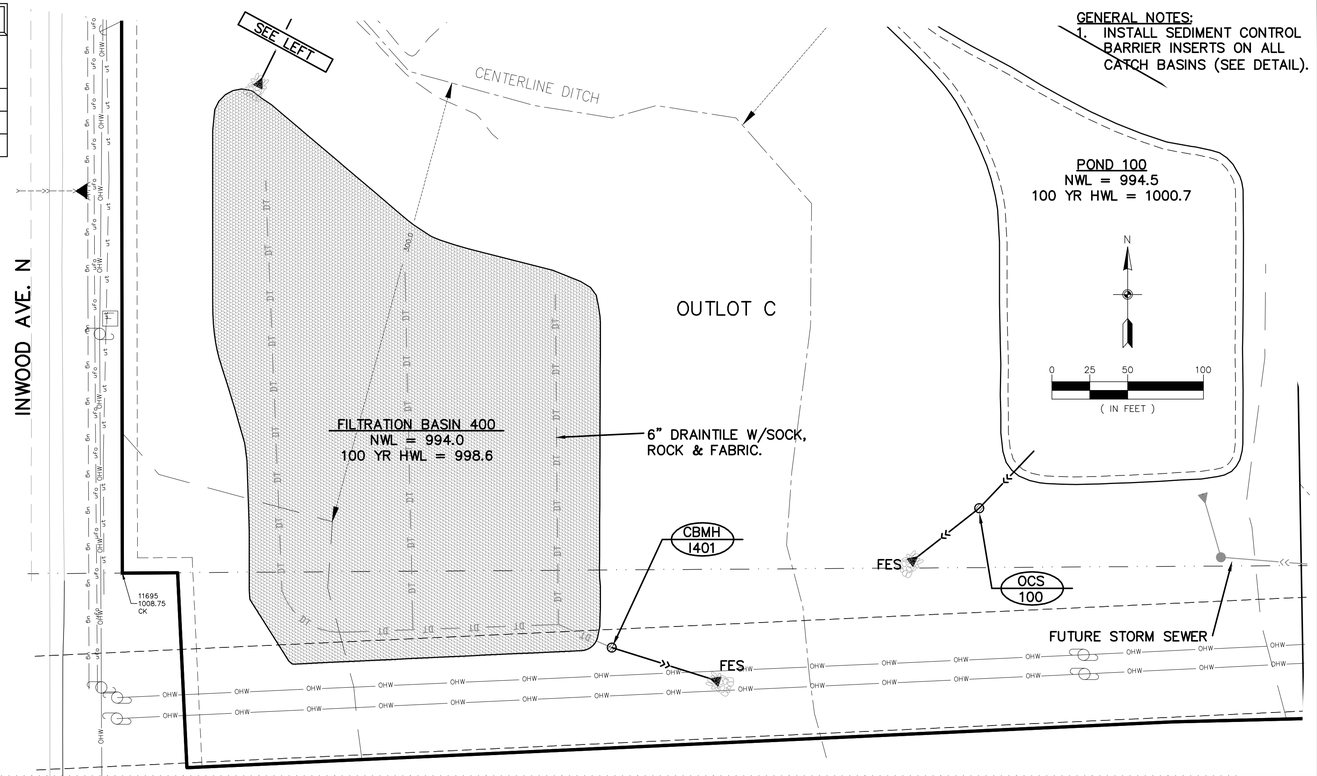
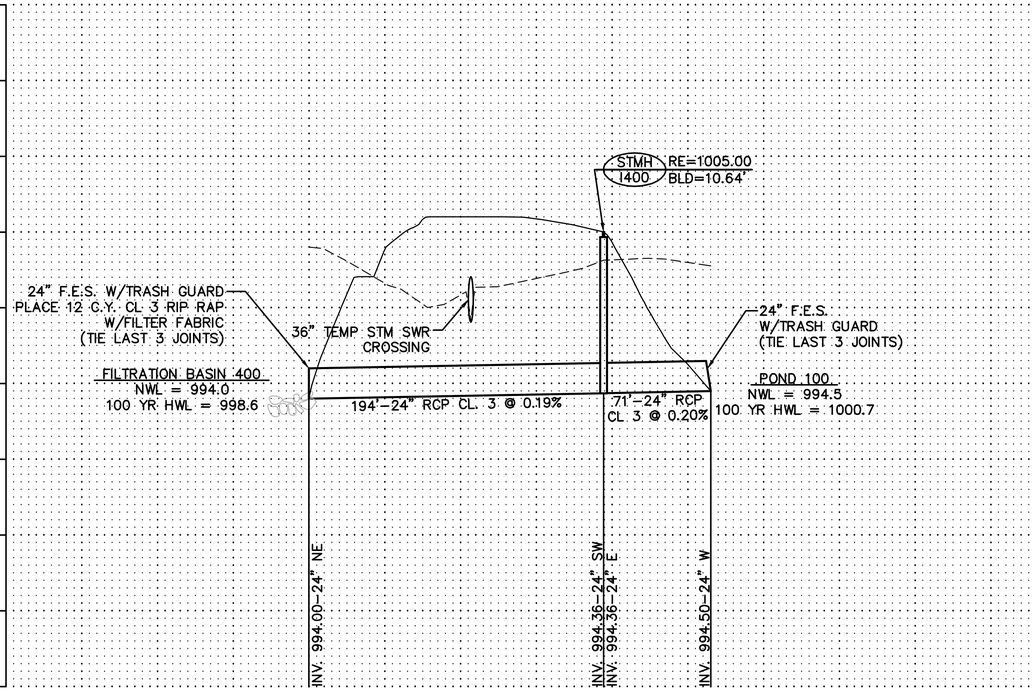
STORM SEWER SCHEDULE		
STRUCTURE		NEENAH CASTING or EQUAL
TYPE & No.	SIZE	
STMH-1400	48" DIA.	R-1642
CBMH-1401	48" DIA.	R-4342
OCS-100	66" DIA.	SEE DETAIL

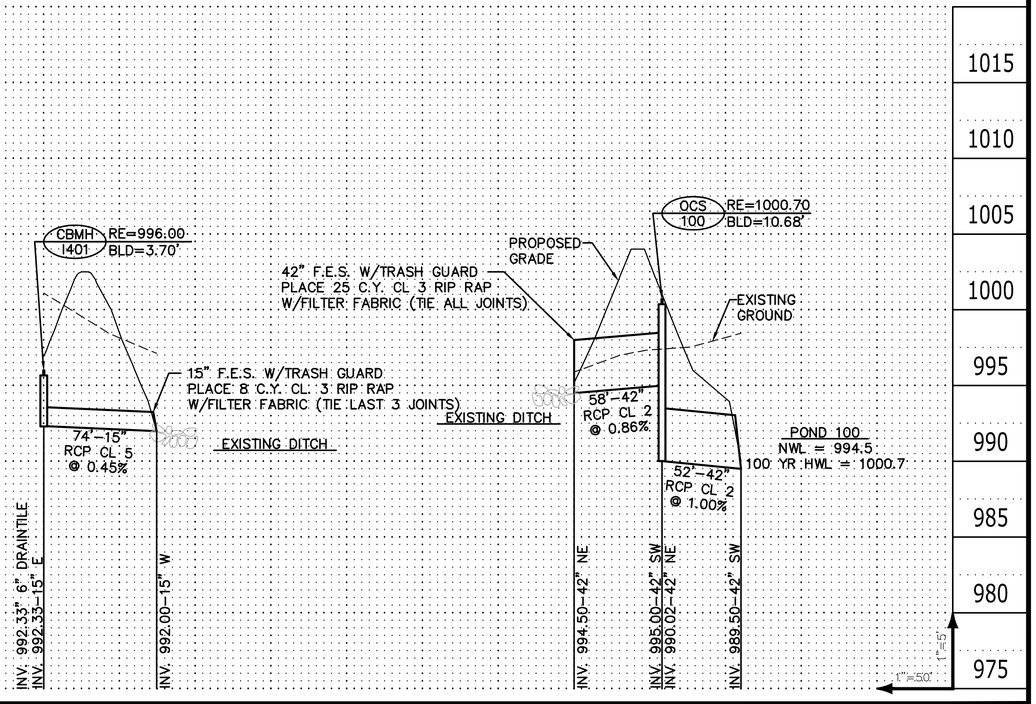
BENCHMARKS

1. Top Nut of Hydrant located on the south side of Eagle Point Road approximately 1290 ft. easterly of the intersection of Eagle Pont Road and Inwood Avenue North – Elevation=1006.57 (NGVD 29)
2. Railroad spike in power pole located on the south side of 10th Street North approximate 1250 ft. east of the West line of the NE 1/4 of S. 33, T. 29, R. 21 – Elevation=1033.78 (NGVD 29)









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INWOOD 1ST ADDITION
Lake Elmo, Minnesota

STORM SEWER

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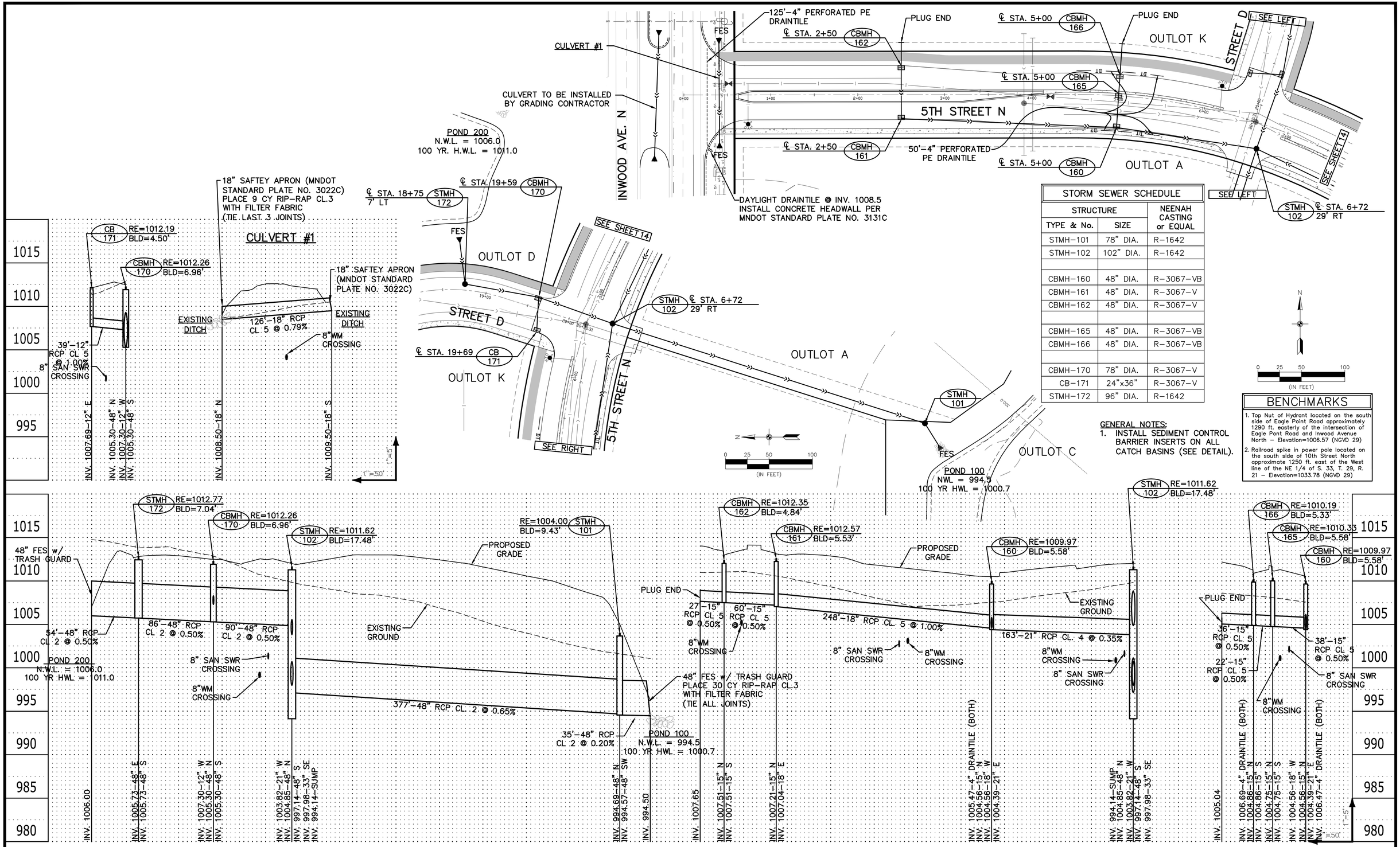

STORM SEWER SCHEDULE		
STRUCTURE		NEENAH CASTING or EQUAL
TYPE & No.	SIZE	
STMH-101	78" DIA.	R-1642
STMH-102	102" DIA.	R-1642
CBMH-160	48" DIA.	R-3067-VB
CBMH-161	48" DIA.	R-3067-V
CBMH-162	48" DIA.	R-3067-V
CBMH-165	48" DIA.	R-3067-VB
CBMH-166	48" DIA.	R-3067-VB
CBMH-170	78" DIA.	R-3067-V
CB-171	24"x36"	R-3067-V
STMH-172	96" DIA.	R-1642

GENERAL NOTES:
1. INSTALL SEDIMENT CONTROL BARRIER INSERTS ON ALL CATCH BASINS (SEE DETAIL).

BENCHMARKS

1. Top Nut of Hydrant located on the south side of Eagle Point Road approximately 1290 ft. easterly of the intersection of Eagle Pont Road and Inwood Avenue North – Elevation=1006.57 (NGVD 29)
2. Railroad spike in power pole located on the south side of 10th Street North approximate 1250 ft. east of the West line of the NE 1/4 of S. 33, T. 29, R. 21 – Elevation=1033.78 (NGVD 29)

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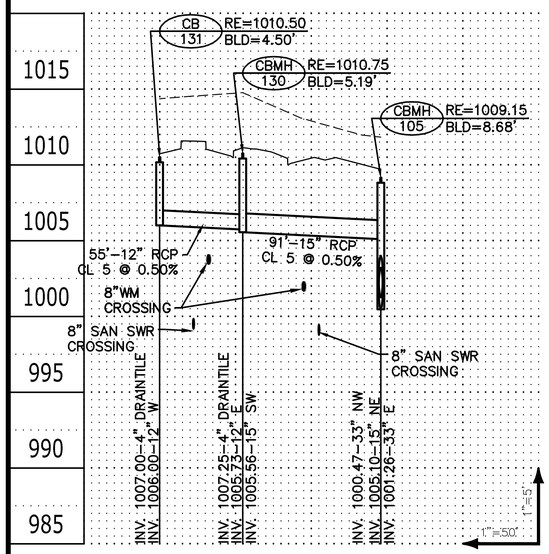

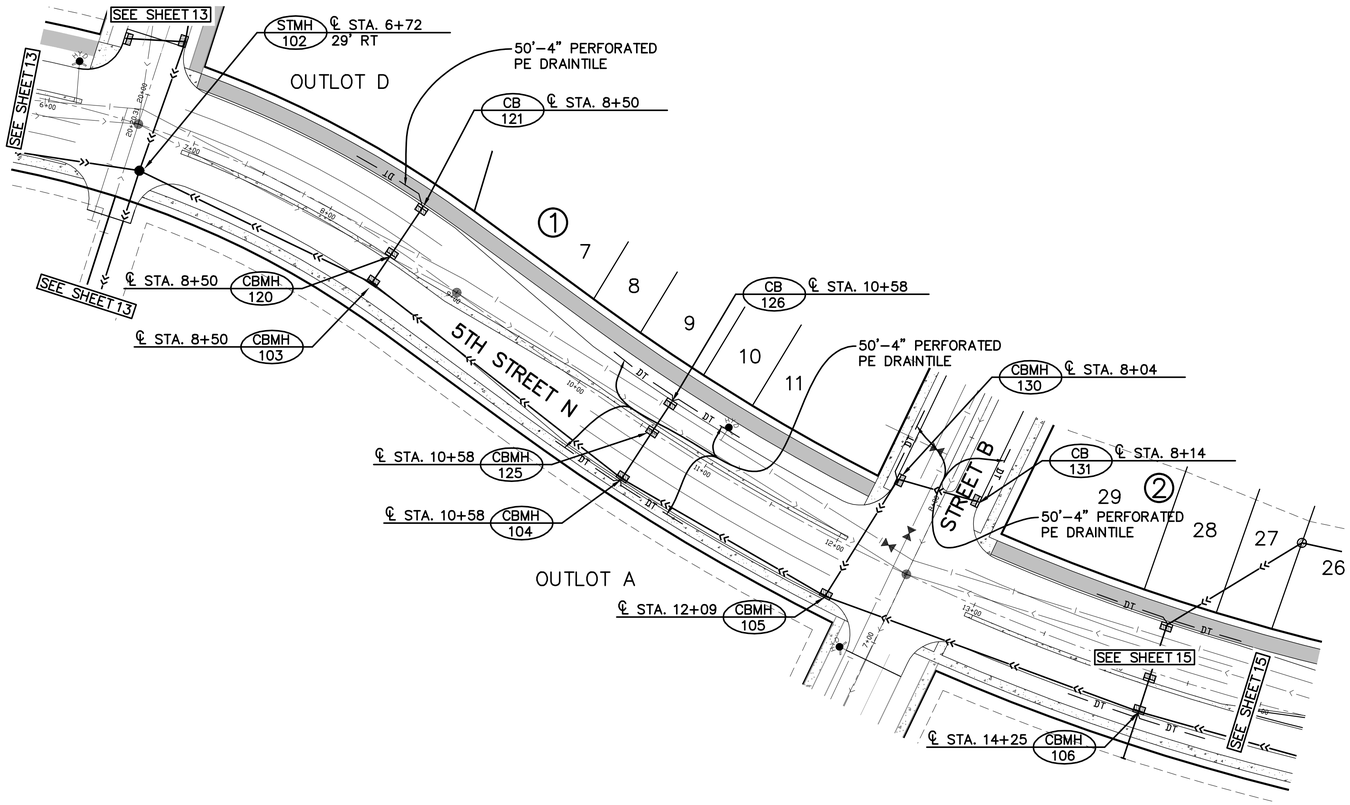

STORM SEWER SCHEDULE		
STRUCTURE		NEENAH CASTING or EQUAL
TYPE & No.	SIZE	
CBMH-103	60" DIA.	R-3067-V
CBMH-104	60" DIA.	R-3067-VB
CBMH-105	60" DIA.	R-3067-V
CBMH-106	60" DIA.	R-3067-VB
CBMH-120	48" DIA.	R-3067-V
CB-121	24"x36"	R-3067-V
CBMH-125	48" DIA.	R-3067-VB
CB-126	24"x36"	R-3067-VB
CBMH-130	48" DIA.	R-3067-V
CB-131	24"x36"	R-3067-V

GENERAL NOTES:
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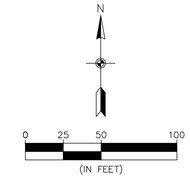

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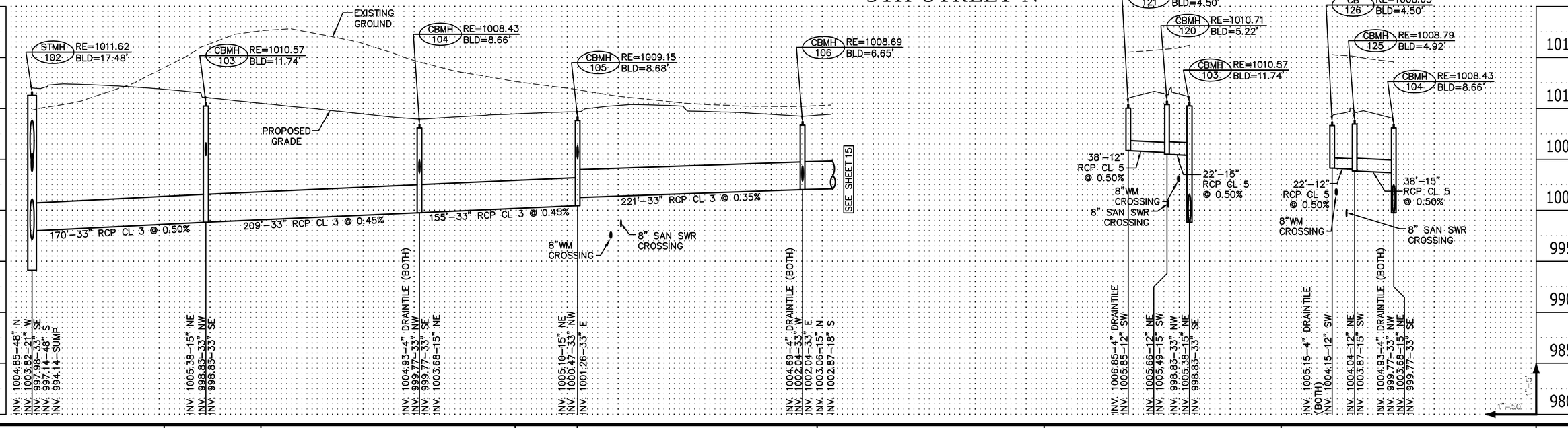

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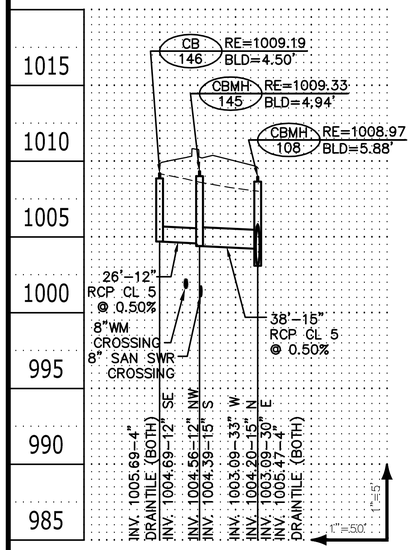

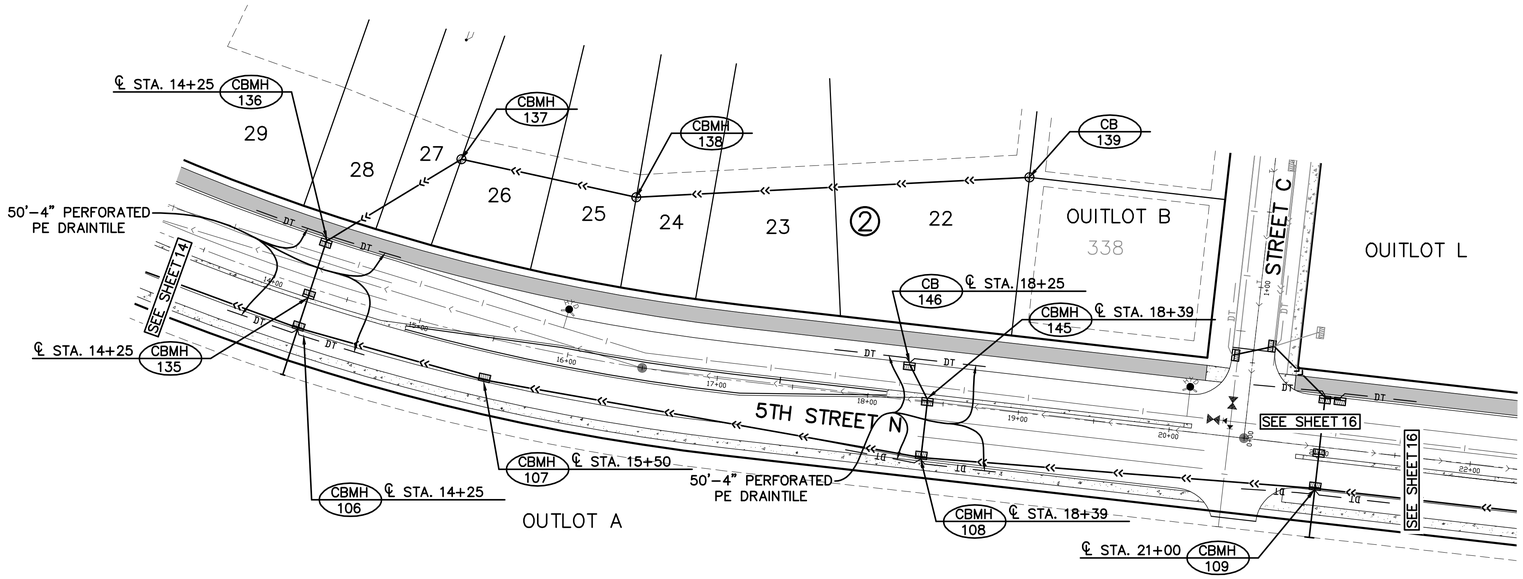

STORM SEWER SCHEDULE		
STRUCTURE		NEENAH CASTING or EQUAL
TYPE & No.	SIZE	
CBMH-107	60" DIA.	R-3067-V
CBMH-108	60" DIA.	R-3067-VB
CBMH-109	60 DIA.	R-3067-VB
CBMH-135	48" DIA.	R-3067-VB
CBMH-136	48" DIA.	R-3067-VB
CBMH-137	48" DIA.	R-4342
CBMH-138	48" DIA.	R-4342
CB-139	DESIGN-G	R-4342
CBMH-145	48" DIA.	R-3067-VB
CB-146	24"x36"	R-3067-VB

GENERAL NOTES:
1. INSTALL SEDIMENT CONTROL BARRIER INSERTS ON ALL CATCH BASINS (SEE DETAIL).

N

0 25 50 100
(IN FEET)

BENCHMARKS

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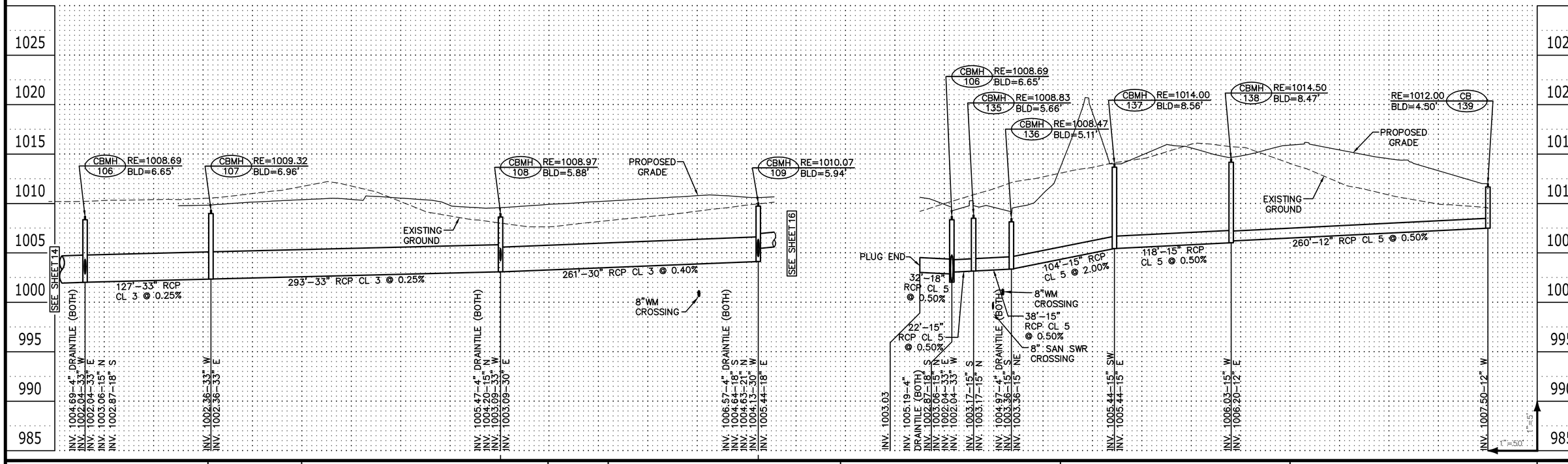

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STORM SEWER

15 of 33

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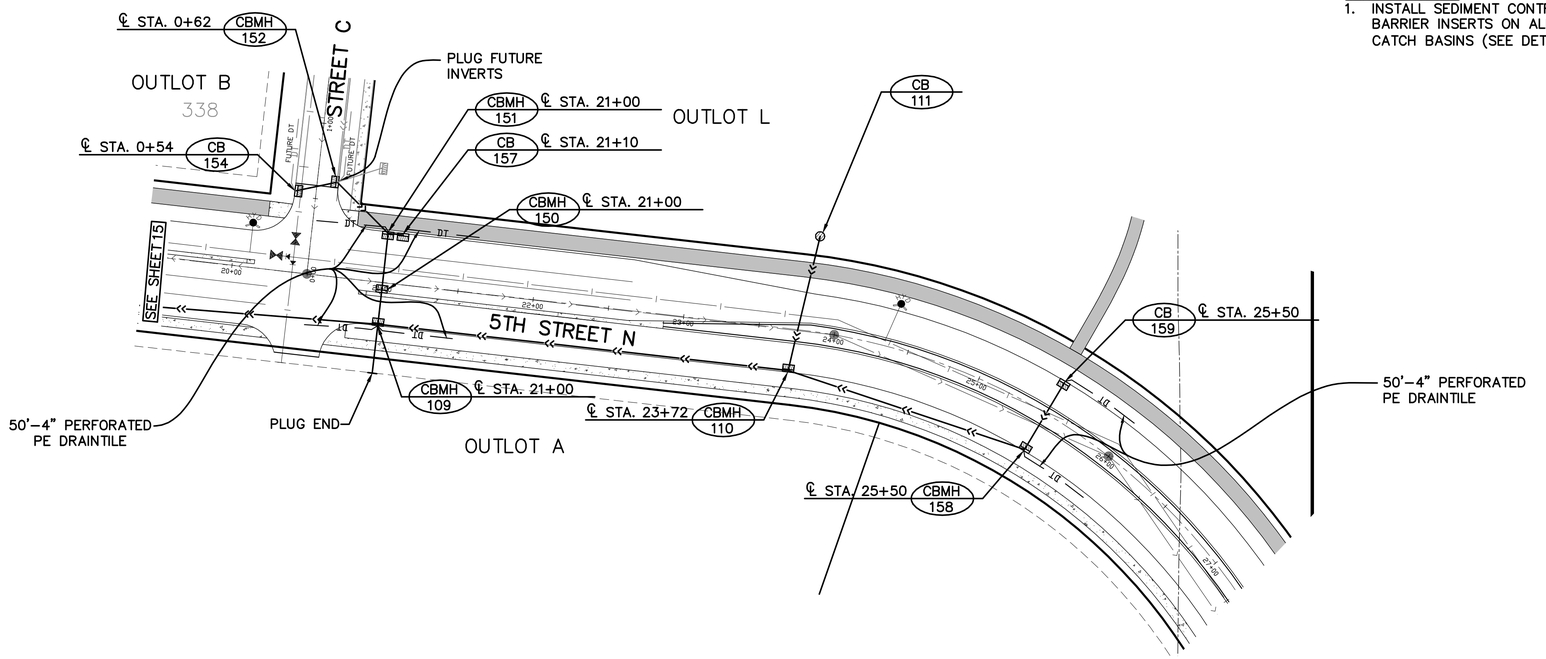

GENERAL NOTES:

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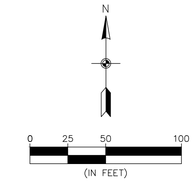
STORM SEWER SCHEDULE		
STRUCTURE		NEENAH CASTING or EQUAL
TYPE & No.	SIZE	
CBMH-110	48" DIA.	R-3067-V
CB-111	DESIGN-G	R-4342
CBMH-150	48" DIA.	R-3067-VB
CBMH-151	48" DIA.	R-3067-VB
CBMH-152	54" DIA.	R-3067-V
CB-154	24"x36"	R-3067-V
CB-157	24"x36"	R-3067-V
CBMH-158	48" DIA.	R-3067-V
CB-159	24"x36"	R-3067-V



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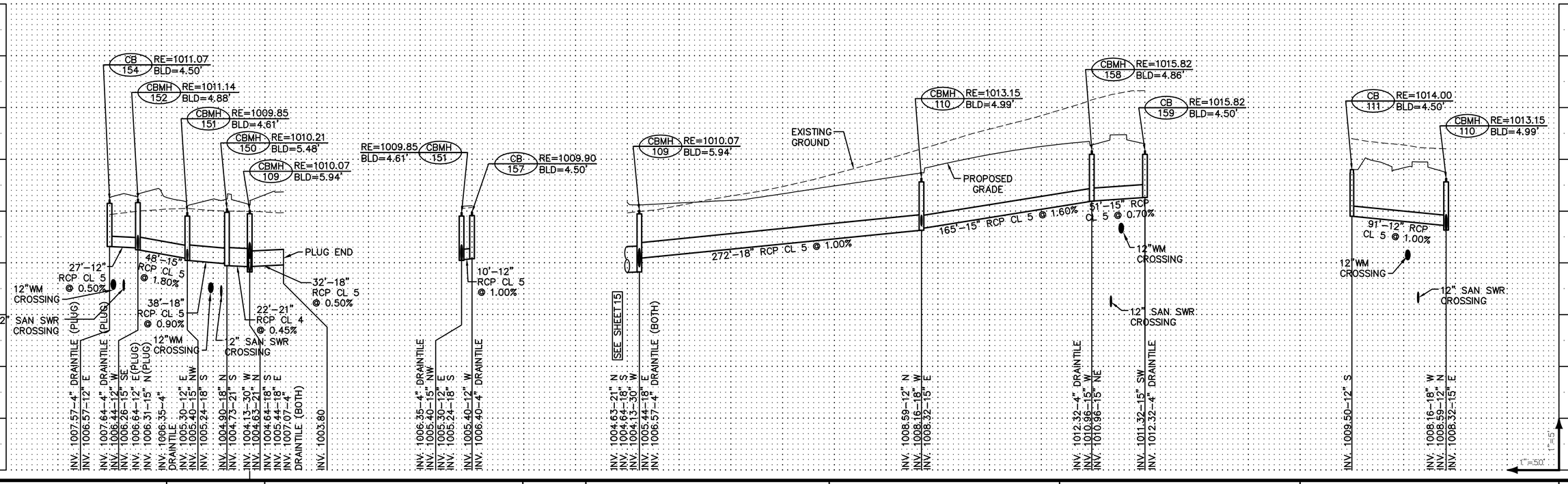

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INWOOD 1ST ADDITION
Lake Elmo, Minnesota

STORM SEWER

16 of 33

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STORM SEWER SCHEDULE		
STRUCTURE		NEENAH CASTING or EQUAL
TYPE & No.	SIZE	
STMH–201	48" DIA.	R–1642
CBMH–202	48" DIA.	R–4342
CBMH–203	48" DIA.	R–4342
CB–205	DESIGN–G	R–4342
STMH–204	48" DIA.	R–1642
CBMH–206	48" DIA.	R–3067–V
CB–207	24"X36"	R–3067–V
CBMH–208	48" DIA.	R–4342
CB–209	DESIGN–G	R–4342

GENERAL NOTES:
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N

0 25 50 100
(IN FEET)

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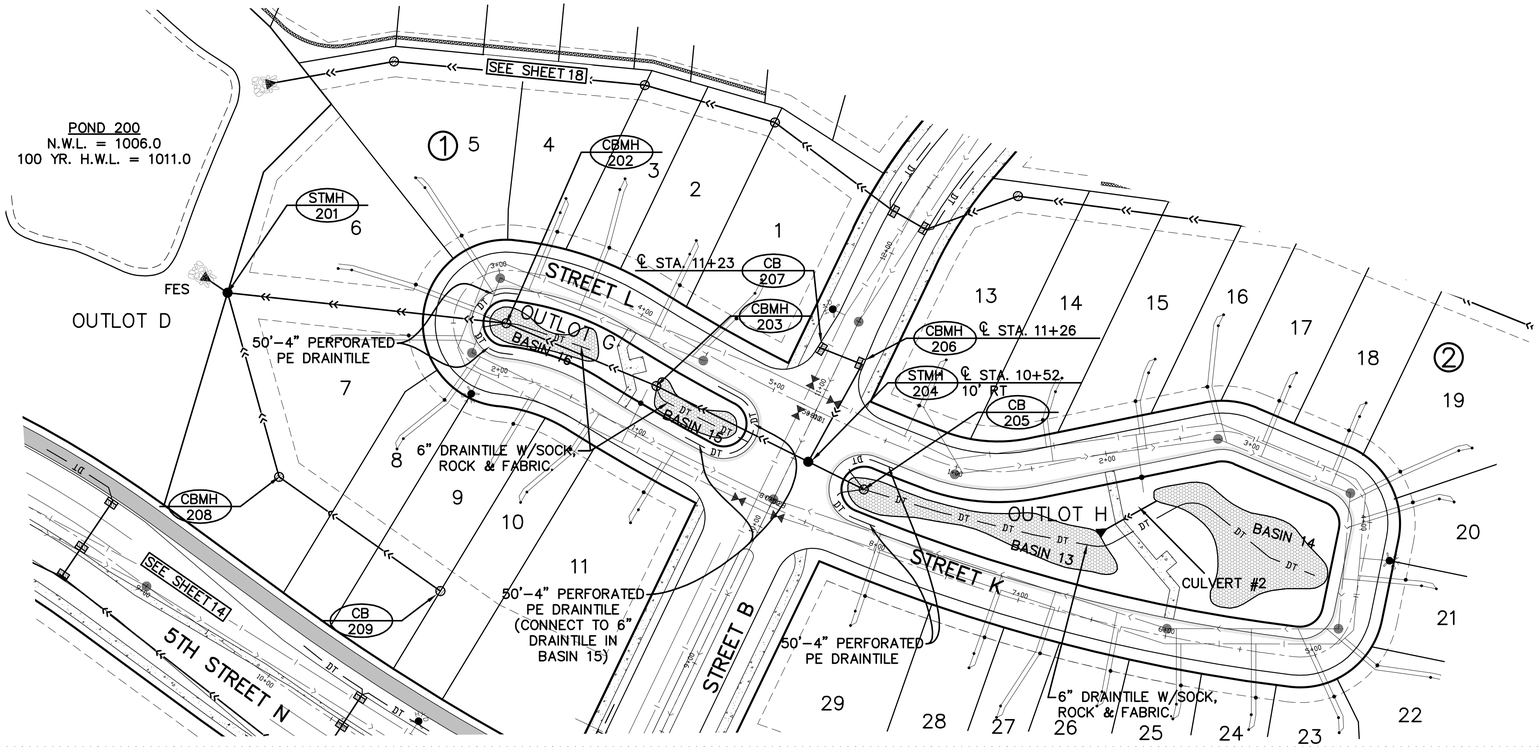

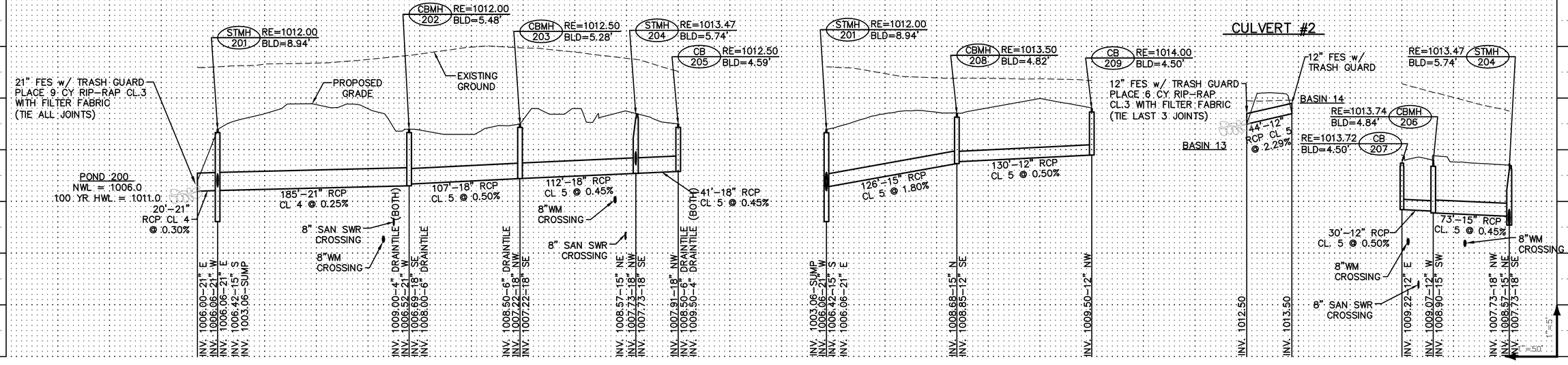

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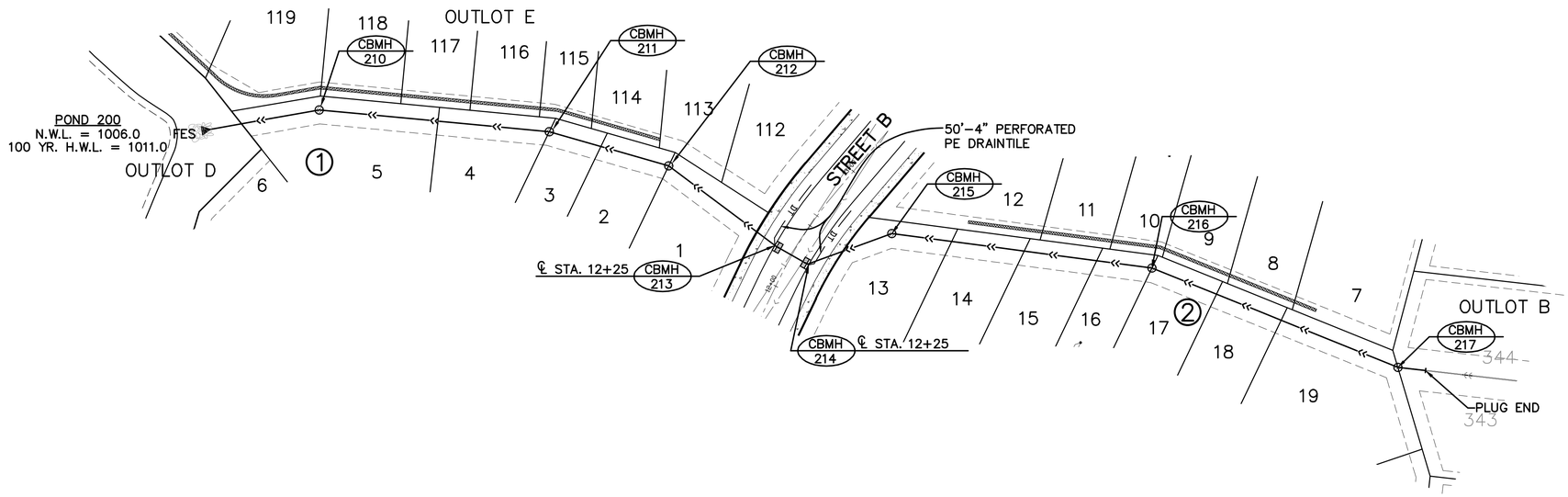
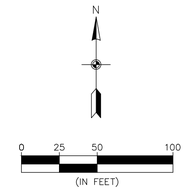


STORM SEWER SCHEDULE		
STRUCTURE		NEENAH CASTING or EQUAL
TYPE & No.	SIZE	
CBMH-210	48" DIA.	R-4342
CBMH-211	48" DIA.	R-4342
CBMH-212	48" DIA.	R-4342
CBMH-213	48" DIA.	R-3067-V
CBMH-214	48" DIA.	R-3067-V
CBMH-215	48" DIA.	R-4342
CBMH-216	48" DIA.	R-4342
CBMH-217	48" DIA.	R-4342

GENERAL NOTES:
1. INSTALL SEDIMENT CONTROL BARRIER INSERTS ON ALL CATCH BASINS (SEE DETAIL).



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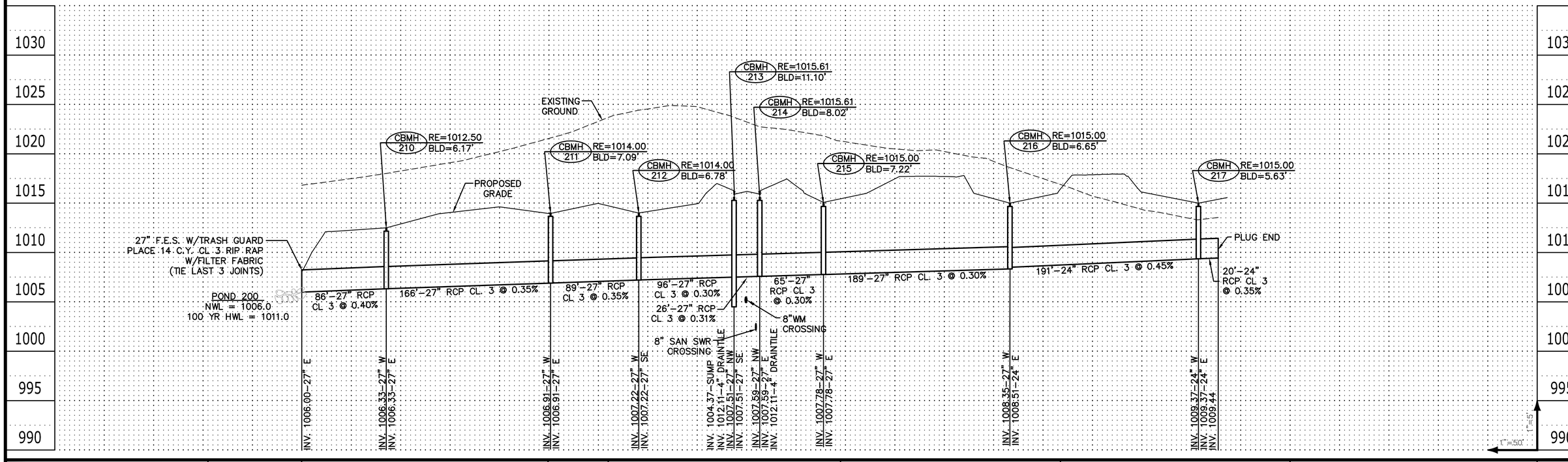

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STORM SEWER

18 of 33

GENERAL NOTES:
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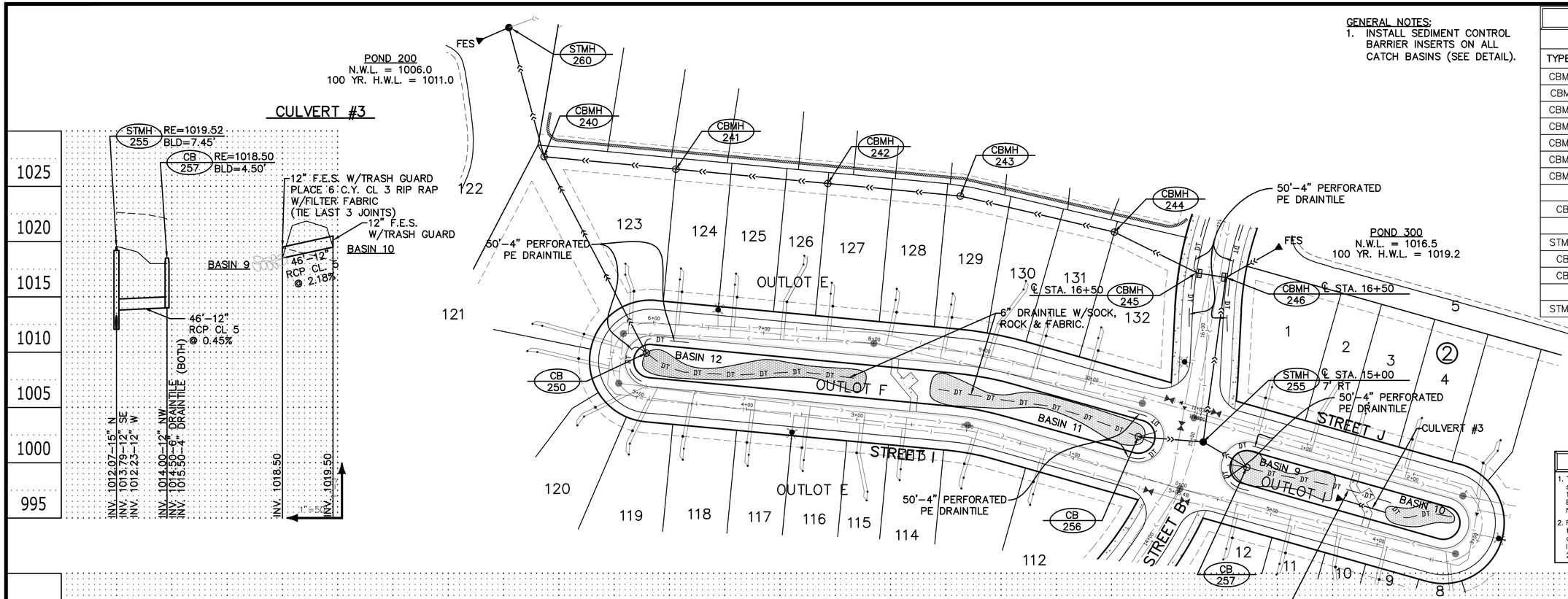
STORM SEWER SCHEDULE		
STRUCTURE		NEENAH CASTING or EQUAL
TYPE & No.	SIZE	
CBMH–240	60" DIA.	R–4342
CBMH–241	60" DIA.	R–4342
CBMH–242	60" DIA.	R–4342
CBMH–243	60" DIA.	R–4342
CBMH–244	60" DIA.	R–4342
CBMH–245	60" DIA.	R–3067–VB
CBMH–246	60" DIA.	R–3067–VB
CB–250	DESIGN–G	R–4342
STMH–255	48" DIA.	R–1642
CB–256	DESIGN–G	R–4342
CB–257	DESIGN–G	R–4342
STMH–260	96" DIA.	R–1642



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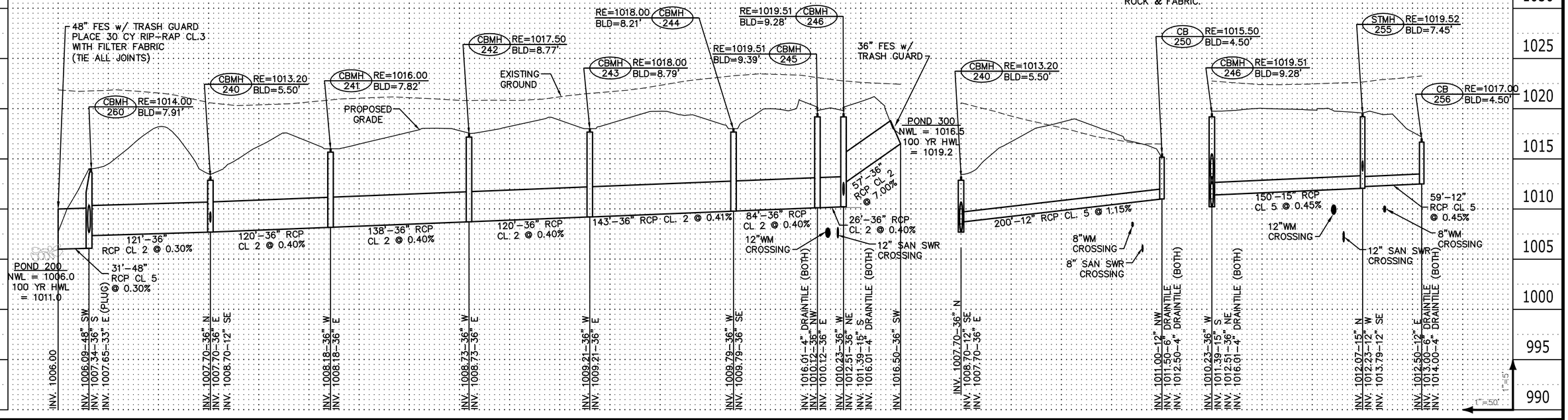

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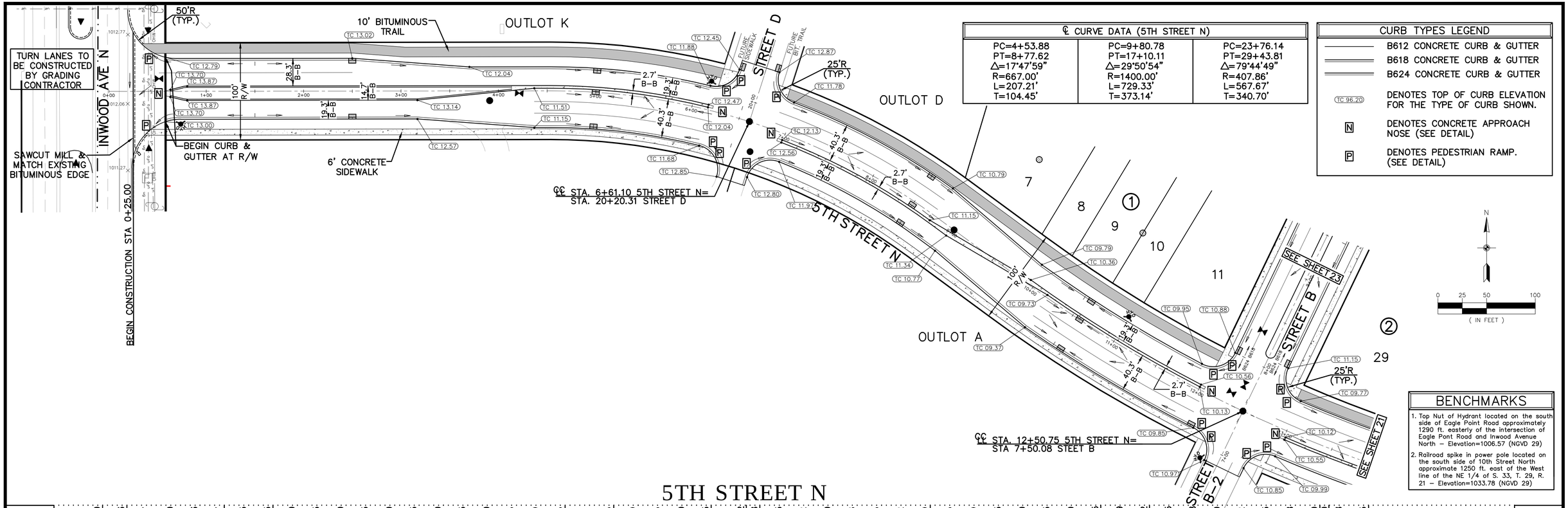
Lake Elmo, Minnesota

STORM SEWER

[Save Date: 03/27/15] \\northstar.local\linolakes\public\jobs\5161 - 5180\5172 - lake elmo property\cad\engineer\final utility phase 1\5172_util-strm.dwg



℄ CURVE DATA (5TH STREET N)		
PC=4+53.88	PC=9+80.78	PC=23+76.14
PT=8+77.62	PT=17+10.11	PT=29+43.81
△=17°47'59"	△=29°50'54"	△=79°44'49"
R=667.00'	R=1400.00'	R=407.86'
L=207.21'	L=729.33'	L=567.67'
T=104.45'	T=373.14'	T=340.70'

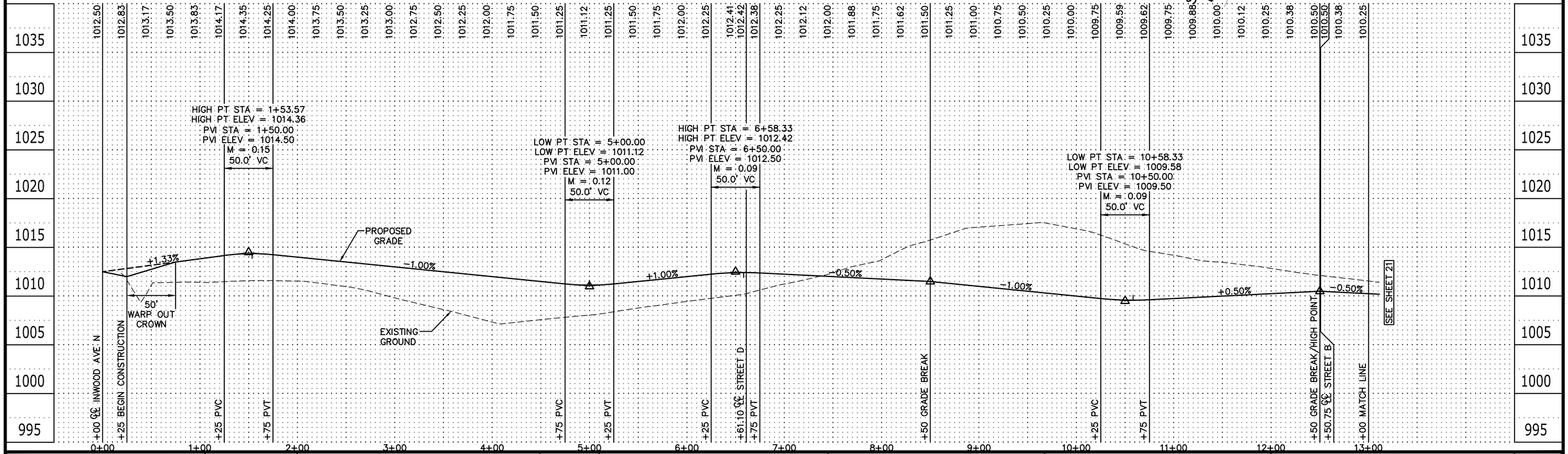
CURB TYPES LEGEND

- B612 CONCRETE CURB & GUTTER
- B618 CONCRETE CURB & GUTTER
- B624 CONCRETE CURB & GUTTER
- (TC 96.20) DENOTES TOP OF CURB ELEVATION FOR THE TYPE OF CURB SHOWN.
- N DENOTES CONCRETE APPROACH NOSE (SEE DETAIL)
- P DENOTES PEDESTRIAN RAMP. (SEE DETAIL)

BENCHMARKS

1. Top Nut of Hydrant located on the south side of Eagle Point Road approximately 1290 ft. easterly of the intersection of Eagle Pont Road and Inwood Avenue North – Elevation=1006.57 (NGVD 29)
2. Railroad spike in power pole located on the south side of 10th Street North approximate 1250 ft. east of the West line of the NE 1/4 of S. 33, T. 29, R. 21 – Elevation=1033.78 (NGVD 29)

5TH STREET N



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Fax: (763) 489-7959
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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

Print Name: Brian J. Krystofiak, P.E.
Signature:
Date: 3/24/15 License #: 25063

Drawn: JJO
Designed: BJK
Date: 3/24/15

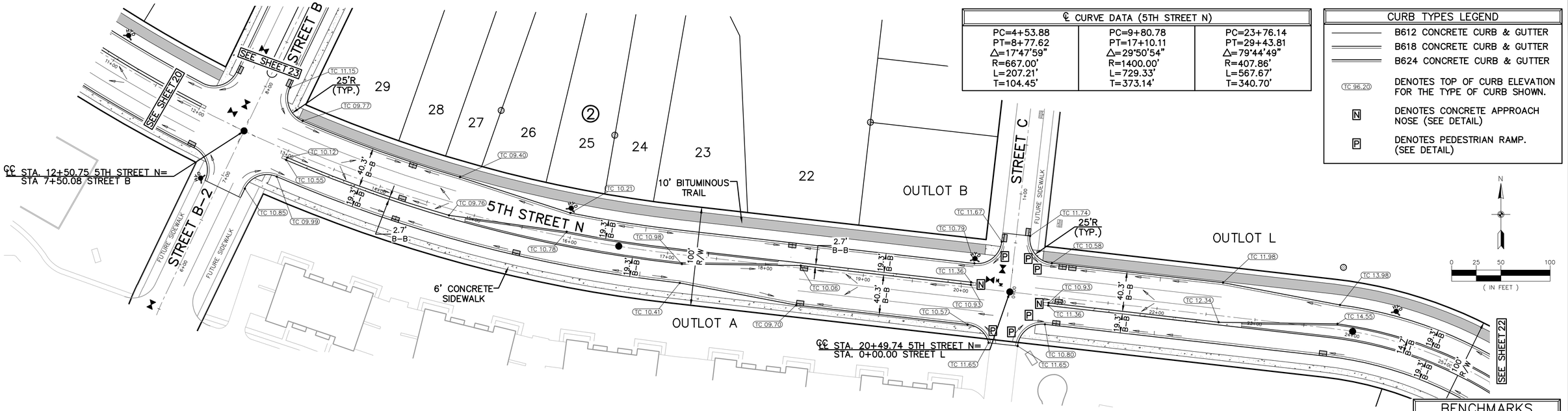
Revisions:
1.

HANS HAGEN HOMES
941 NE Hillwind Rd., Suite 300
Fridley, MN 55432

INWOOD 1ST ADDITION
Lake Elmo, Minnesota

STREET CONSTRUCTION

[Save Date: 03/26/15] \\northstar.local\linolakes\public\jobs\5161 - 5180\5172 - lake elmo property\cad\engineer\final utility phase 1\5172_street.dwg



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PC=4+53.88 PT=8+77.62 △=17°47'59" R=667.00' L=207.21' T=104.45'	PC=9+80.78 PT=17+10.11 △=29°50'54" R=1400.00' L=729.33' T=373.14'	PC=23+76.14 PT=29+43.81 △=79°44'49" R=407.86' L=567.67' T=340.70'

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- [N] DENOTES CONCRETE APPROACH NOSE (SEE DETAIL)
- [P] DENOTES PEDESTRIAN RAMP. (SEE DETAIL)

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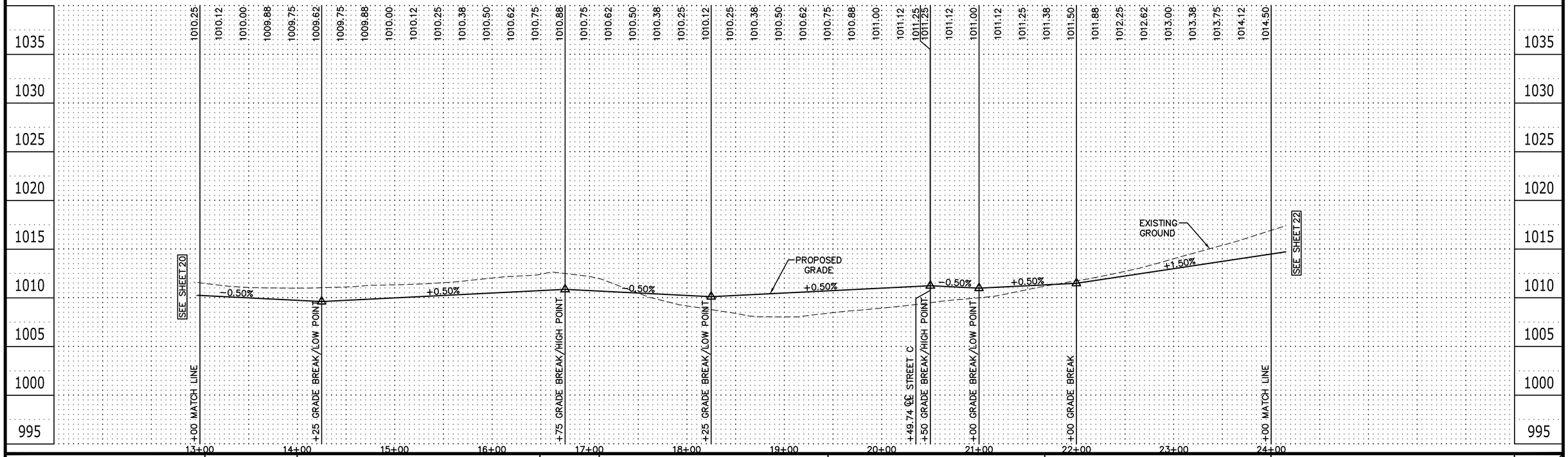

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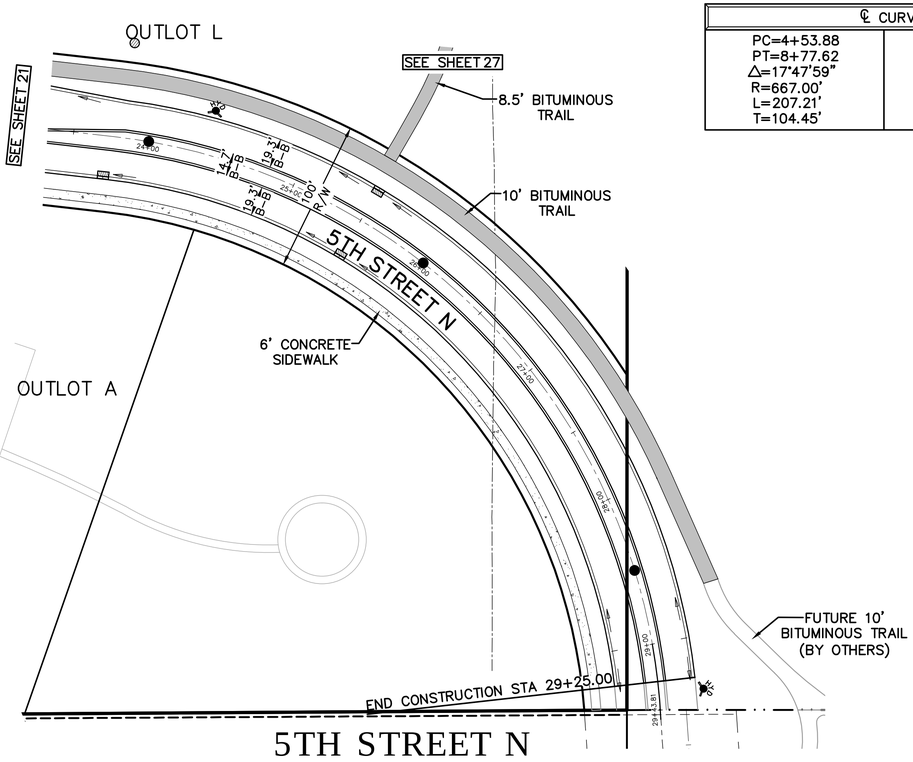

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═══	B618 CONCRETE CURB & GUTTER
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TC 96.20	DENOTES TOP OF CURB ELEVATION FOR THE TYPE OF CURB SHOWN.
N	DENOTES CONCRETE APPROACH NOSE (SEE DETAIL)
P	DENOTES PEDESTRIAN RAMP. (SEE DETAIL)

N

0 25 50 100
(IN FEET)

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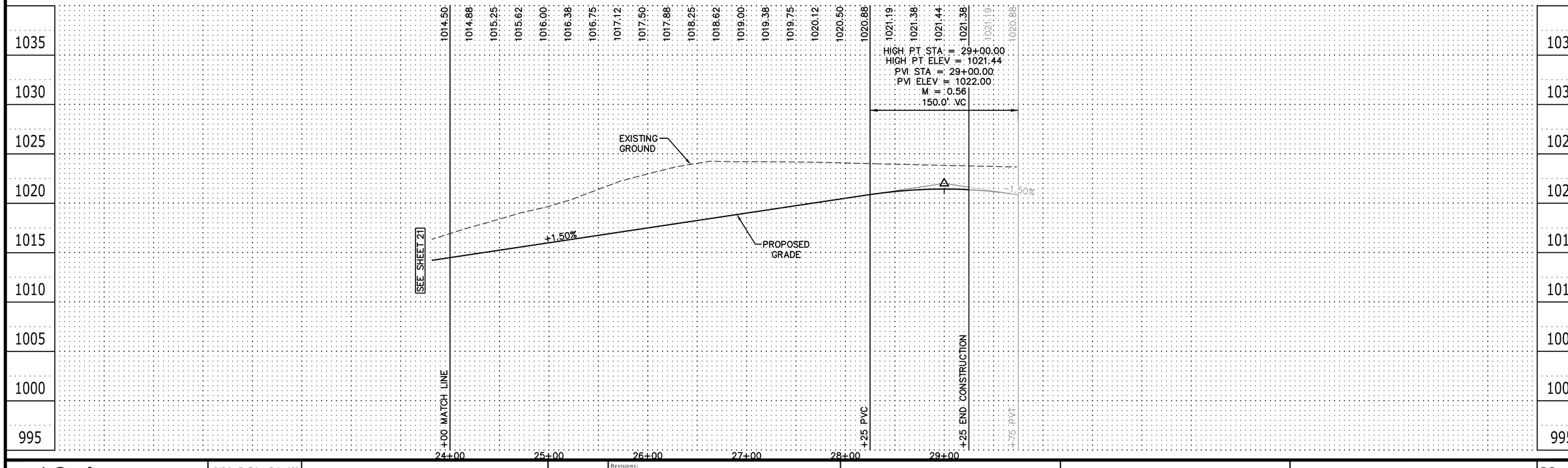
5TH STREET N



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℄ CURVE DATA (STREET B)		
PC=12+04.50 PT=12+82.19 △=14°50'13" R=300.00' L=77.69' T=39.06'	PC=13+59.40 PT=15+56.48 △=37°38'25" R=300.00' L=197.08' T=102.25'	PC=16+18.92 PT=18+73.14 △=48°33'07" R=300.00' L=254.22' T=135.30'

CURB TYPES LEGEND

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- CONCRETE RIBBON CURB & GUTTER
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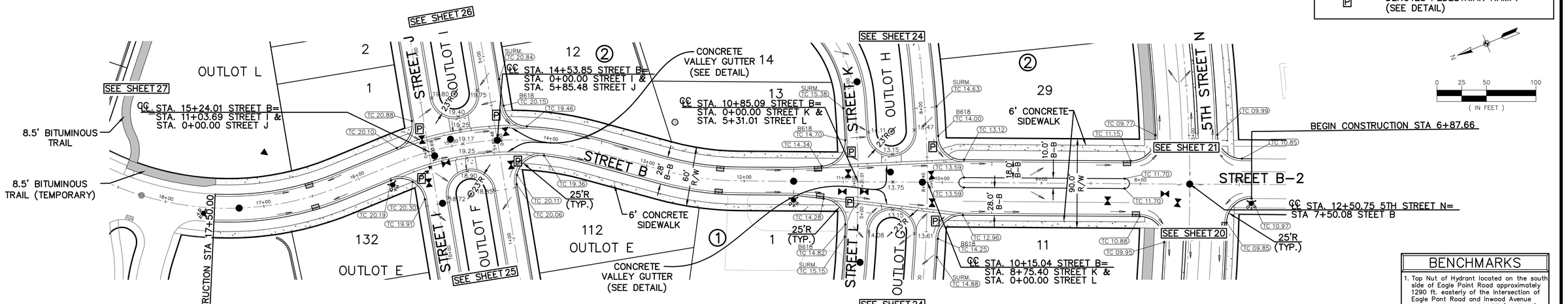
- × 13.54 DENOTES SPOT ELEVATION
- P DENOTES PEDESTRIAN RAMP. (SEE DETAIL)



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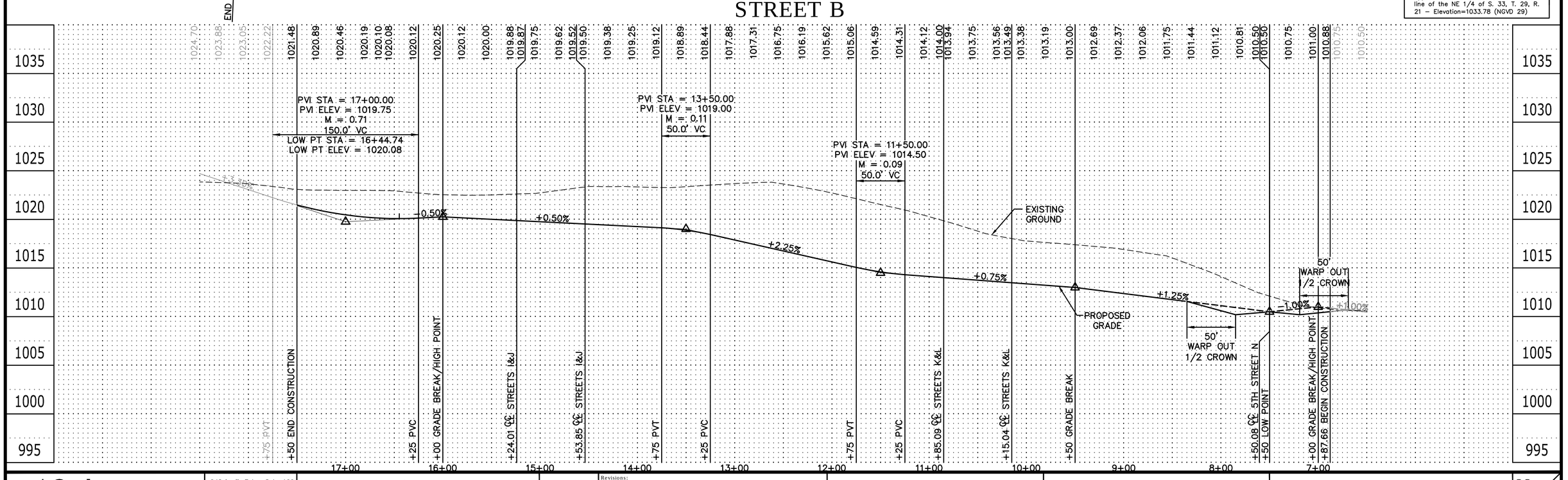

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Lake Elmo, Minnesota

STREET CONSTRUCTION

[Save Date: 03/26/15] \\northstar.local\linolakes\public\jobs\5161 - 5180\5172 - lake elmo property\cad\engineer\final utility phase 1\5172_street.dwg

℄ CURVE DATA (STREET L)				
PC=0+00.00 PT=1+31.62 Δ=7°04'52" R=1065.00' L=131.62' T=65.89'	PC=1+31.62 PT=2+22.92 Δ=26°49'33" R=195.00' L=91.30' T=46.50'	PC=2+22.92 PT=3+32.88 Δ=180°00'00" R=35.00' L=109.96' T=N/A'	PC=3+32.88 PT=3+91.40 Δ=26°49'33" R=125.00' L=58.52' T=29.81'	PC=3+91.40 PT=5+21.01 Δ=6°32'35" R=1135.00' L=129.61' T=64.88'

℄ CURVE DATA (STREET K)				
PC=0+84.34 PT=1+51.74 Δ=36°11'34" R=119.97' L=67.40' T=34.61'	PC=2+70.15 PT=2+94.18 Δ=34°25'30" R=40.00' L=24.03' T=12.39'	PC=3+59.79 PT=4+07.81 Δ=78°36'44" R=35.00' L=48.02' T=28.65'	PC=4+61.98 PT=5+14.14 Δ=85°22'40" R=35.00' L=52.15' T=32.28'	PC=5+14.14 PT=8+75.28 Δ=18°13'51" R=1135.00' L=361.14' T=182.11'

CURB TYPES LEGEND

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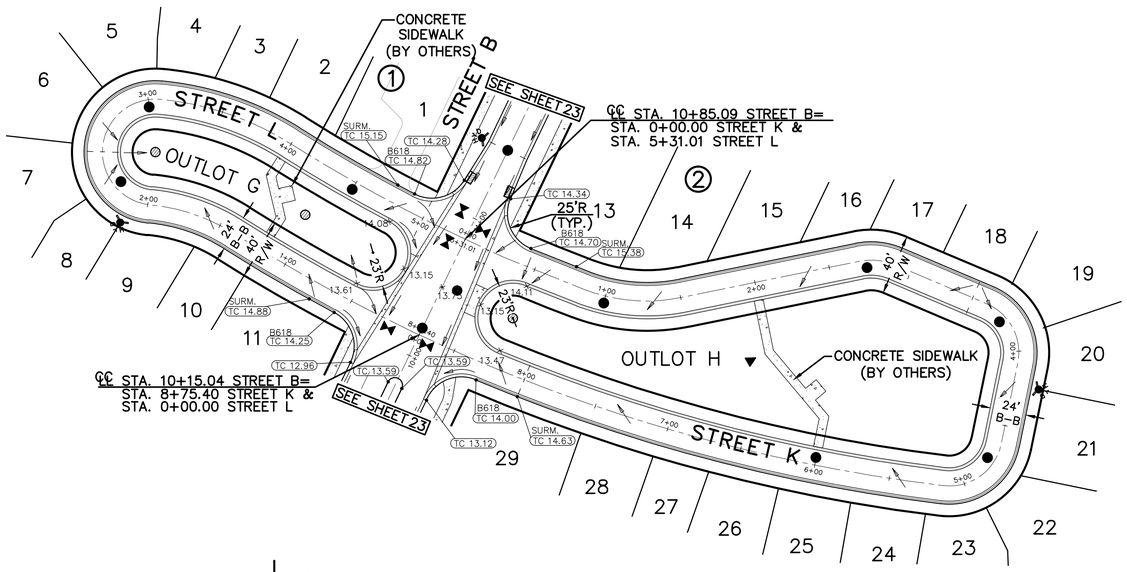
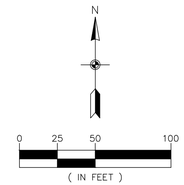
- × 13.54 DENOTES SPOT ELEVATION.
- P DENOTES PEDESTRIAN RAMP. (SEE DETAIL)





BENCHMARKS

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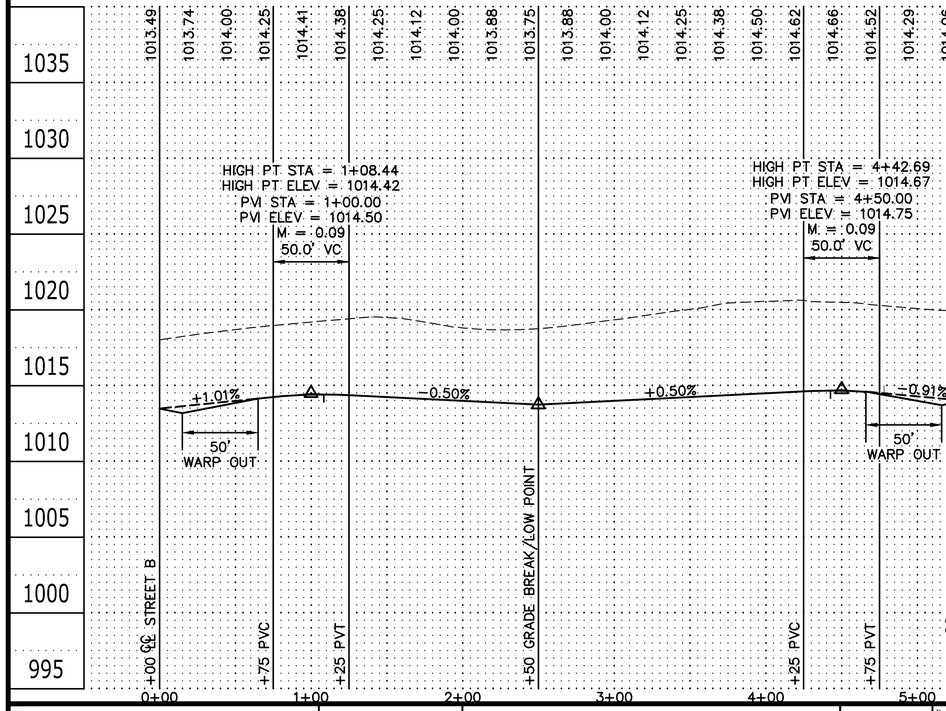
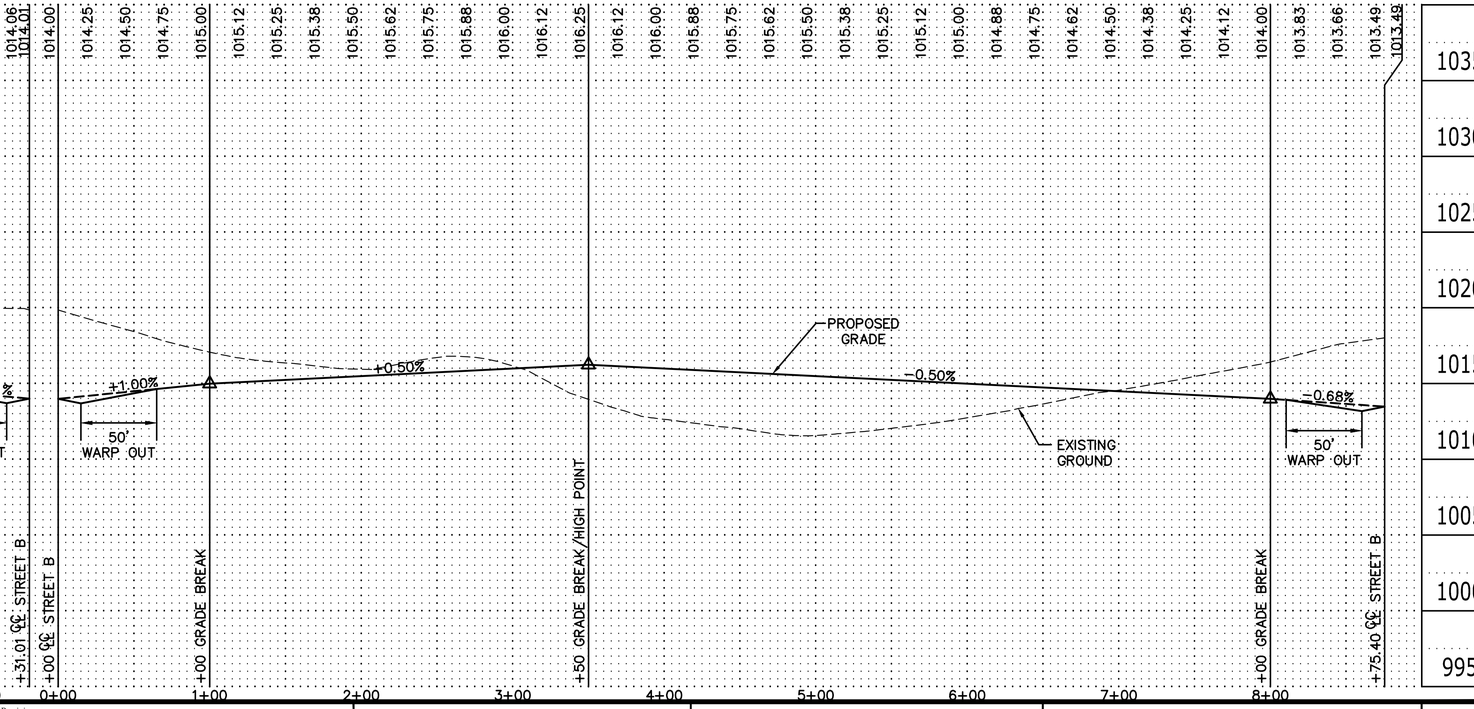
STREET L



STREET K



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INWOOD 1ST ADDITION
Lake Elmo, Minnesota

STREET CONSTRUCTION

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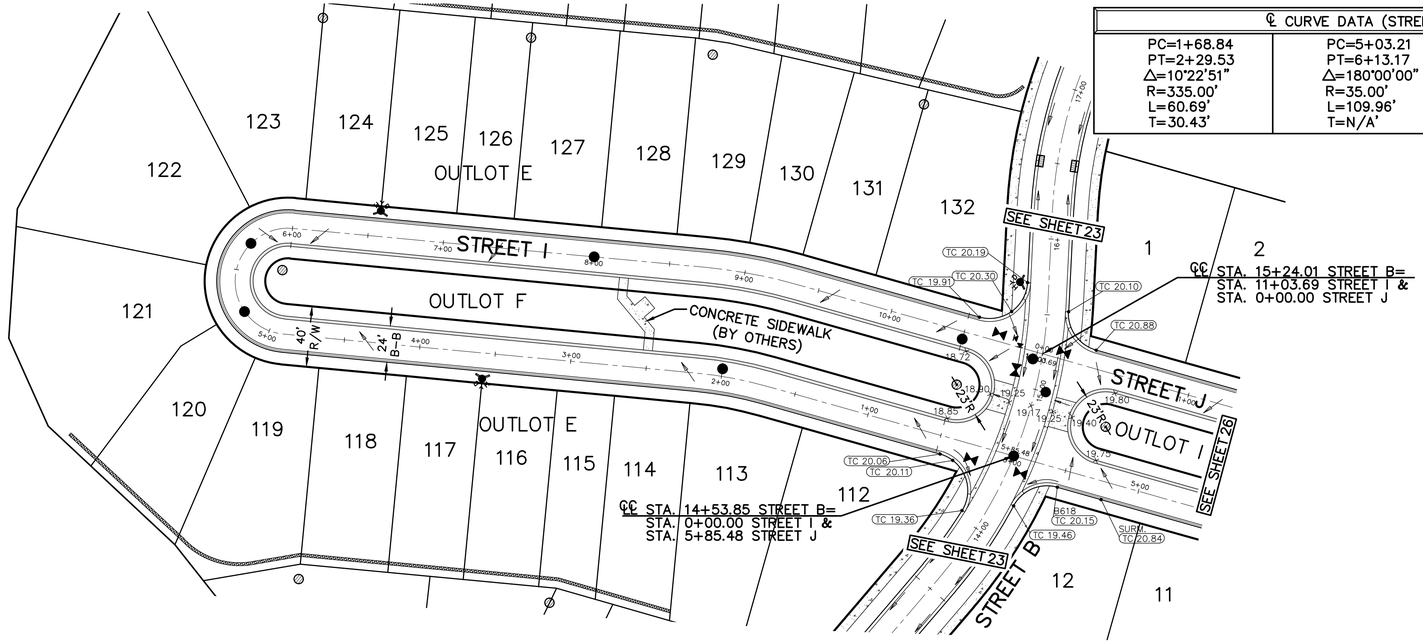

℄ CURVE DATA (STREET I)

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CURB TYPES LEGEND

	SURMOUNTABLE CONCRETE CURB & GUTTER
	CONCRETE RIBBON CURB & GUTTER
	B612 CONCRETE CURB & GUTTER
	B618 CONCRETE CURB & GUTTER
(TC 96.20)	DENOTES TOP OF CURB ELEVATION FOR THE TYPE OF CURB SHOWN.
× 13.54	DENOTES SPOT ELEVATION.
P	DENOTES PEDESTRIAN RAMP. (SEE DETAIL)

N

0 25 50 100

(IN FEET)

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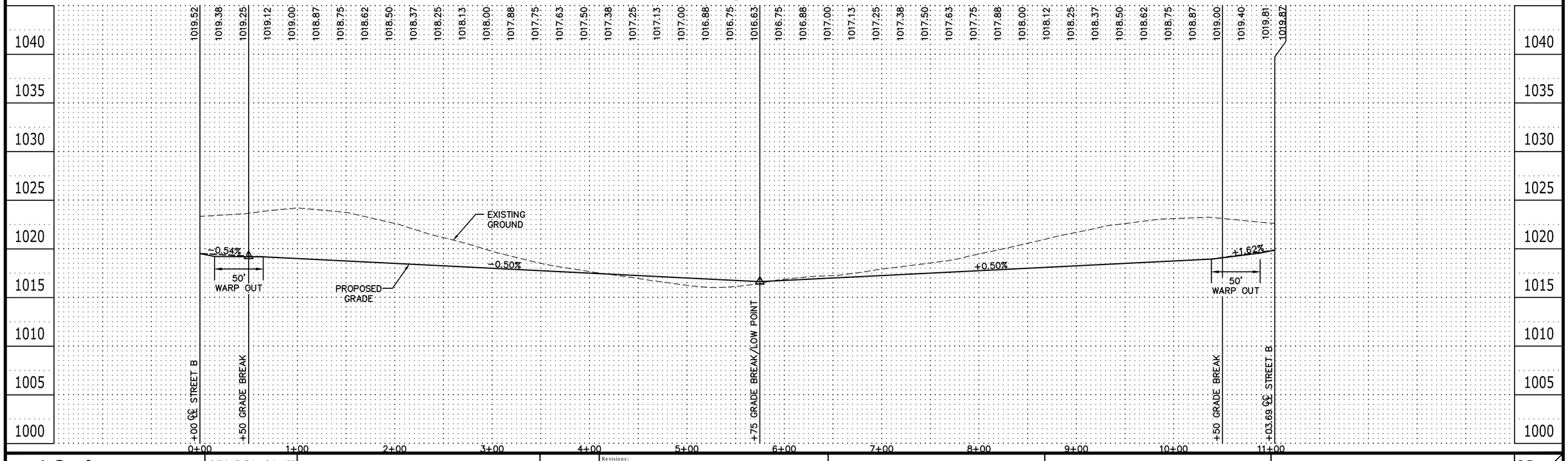
STREET I



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℄ CURVE DATA (STREET J)
PC=1+57.92
PT=2+82.98
Δ=180°00'00"
R=35.00'
L=109.96'
T=N/A'

CURB TYPES LEGEND	
═══	SURMOUNTABLE CONCRETE CURB & GUTTER
═══	CONCRETE RIBBON CURB & GUTTER
═══	B612 CONCRETE CURB & GUTTER
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× 13.54	DENOTES SPOT ELEVATION.
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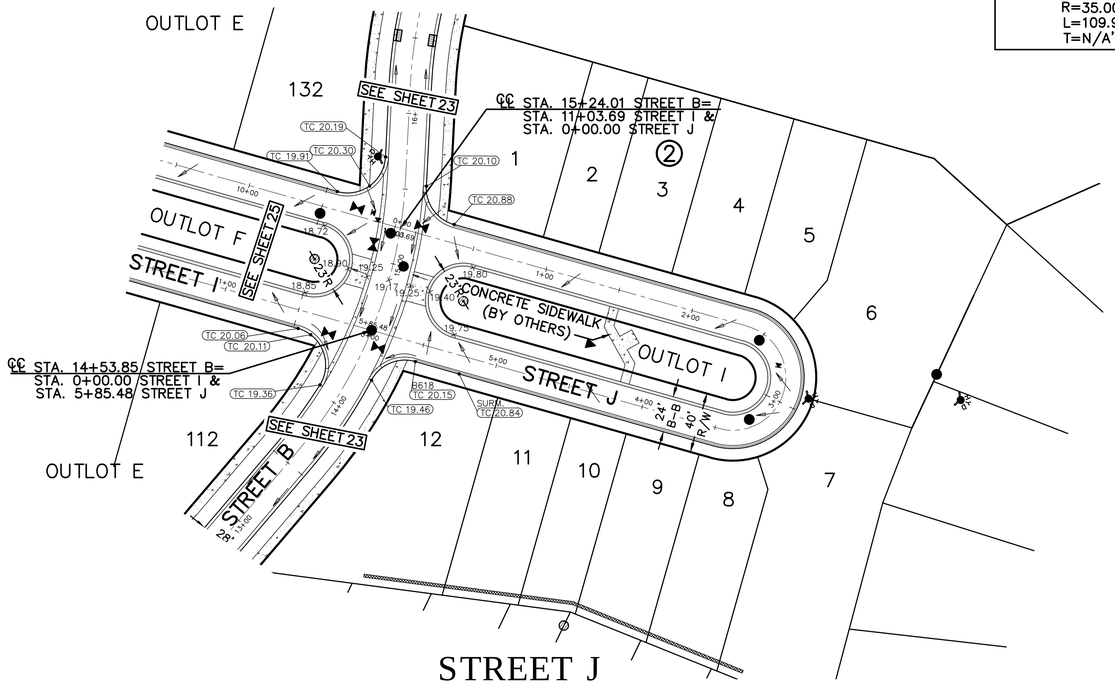

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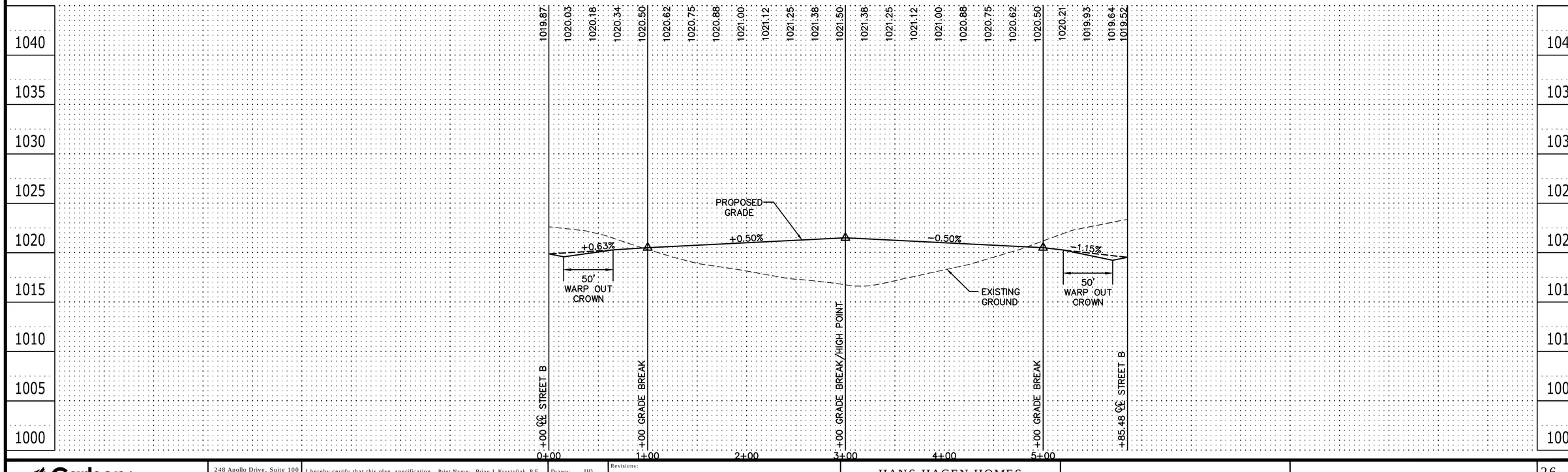

STREET J

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N

0 25 50 100
(IN FEET)

297 298 299 300 301 302 303 304 305 306 307 308 OUTLOT J OUTLOT L

STREET B

STREET C

STREET J

5TH STREET N

1 2 3 4 5 6 7 8 ② 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 OUTLOT B

FUTURE 8.5' BIT TRAIL

8.5' BITUMINOUS TRAIL

8.5' BITUMINOUS TRAIL (TEMPORARY)

10' BITUMINOUS TRAIL

SEE SHEET 23

SEE SHEET 22

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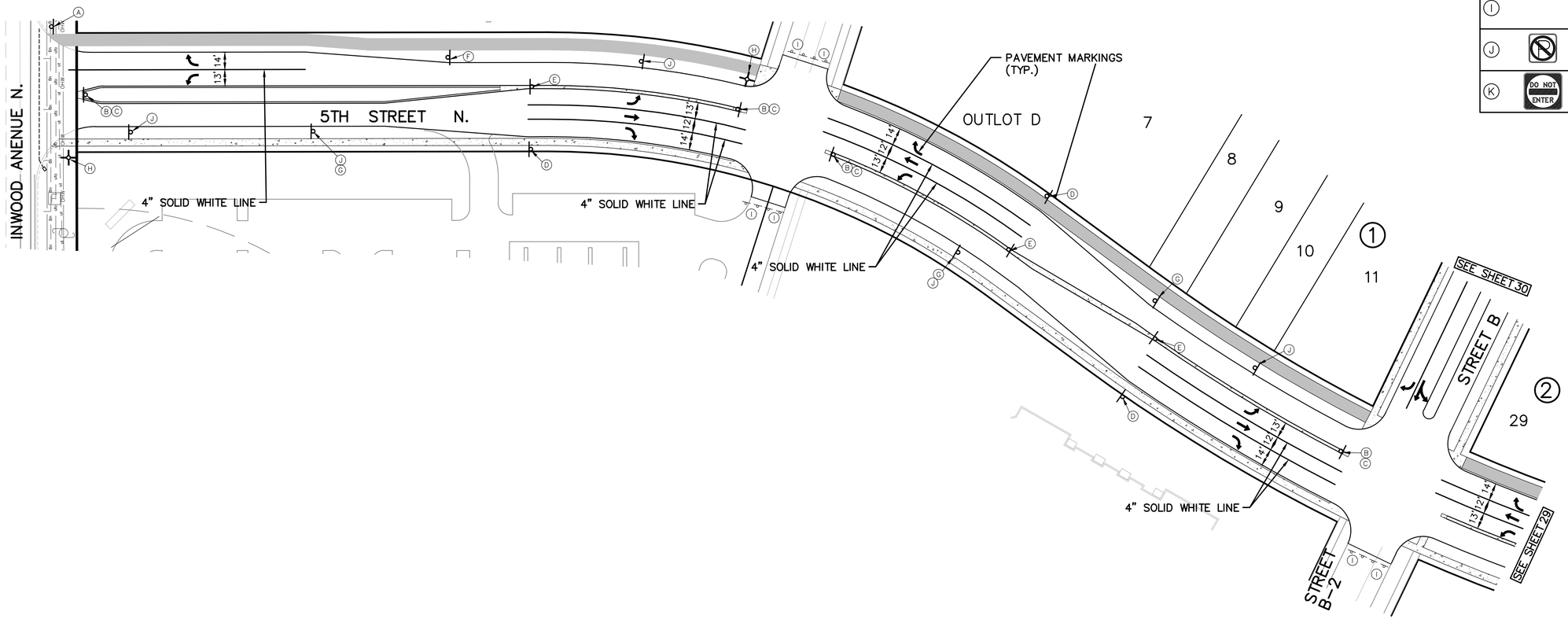
NOTES:

1. ALL SIGNS & LOCATIONS WILL BE SUBJECT TO CHANGE WHEN THE MASTER SIGN PLAN IS APPROVED.

2. SIGNING & STRIPING PER MMUTCD STANDARDS.

3. ALL DIMENSIONS SHOWN FROM CURB LINES ARE TO THE BACK OF CURB.

SIGN SCHEDULE				
	SIGN	SIGN NO.	SIZE	QUANTITY
(A)	STOP	R1-1	30" X 30" (BLACK ON WHITE)	6
(B)		R4-7	24" X 30" (BLACK ON WHITE)	9
(C)		X4-2	18" X 18" (YELLOW ON BLACK)	9
(D)	RIGHT TURN LANE	R3-X1	30" X 30" (BLACK ON WHITE)	7
(E)	LEFT TURN LANE	R3-X2	30" X 30" (BLACK ON WHITE)	6
(F)	ONLY ONLY	R3-30AA	30" X 30" (BLACK ON WHITE)	1
(G)	ONLY ONLY ONLY	R3-30ACA	54" X 30" (BLACK ON WHITE)	6
(H)		STREET SIGN		6
(I)		TYPE III BARRICADES		16
(J)		R8-3A (NO PARKING)	24" X 24" (BLACK AND RED ON WHITE)	14
(K)	DO NOT ENTER	R5-1 (DO NOT ENTER)	30" X 30" (RED ON WHITE)	4



Carlson McCain
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248 Apollo Drive, Suite 100
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Phone: (763) 489-7900
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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

Print Name: Brian J. Krystofiak, P.E.
Signature:
Date: 3/24/15 License #: 25063

Drawn: JJO
Designed: BJK
Date: 3/24/15

Revisions:
1.

HANS HAGEN HOMES
941 NE Hillwind Rd., Suite 300
Fridley, MN 55432

INWOOD 1ST ADDITION
Lake Elmo, Minnesota

SIGNING & STRIPING PLAN

28 of 33

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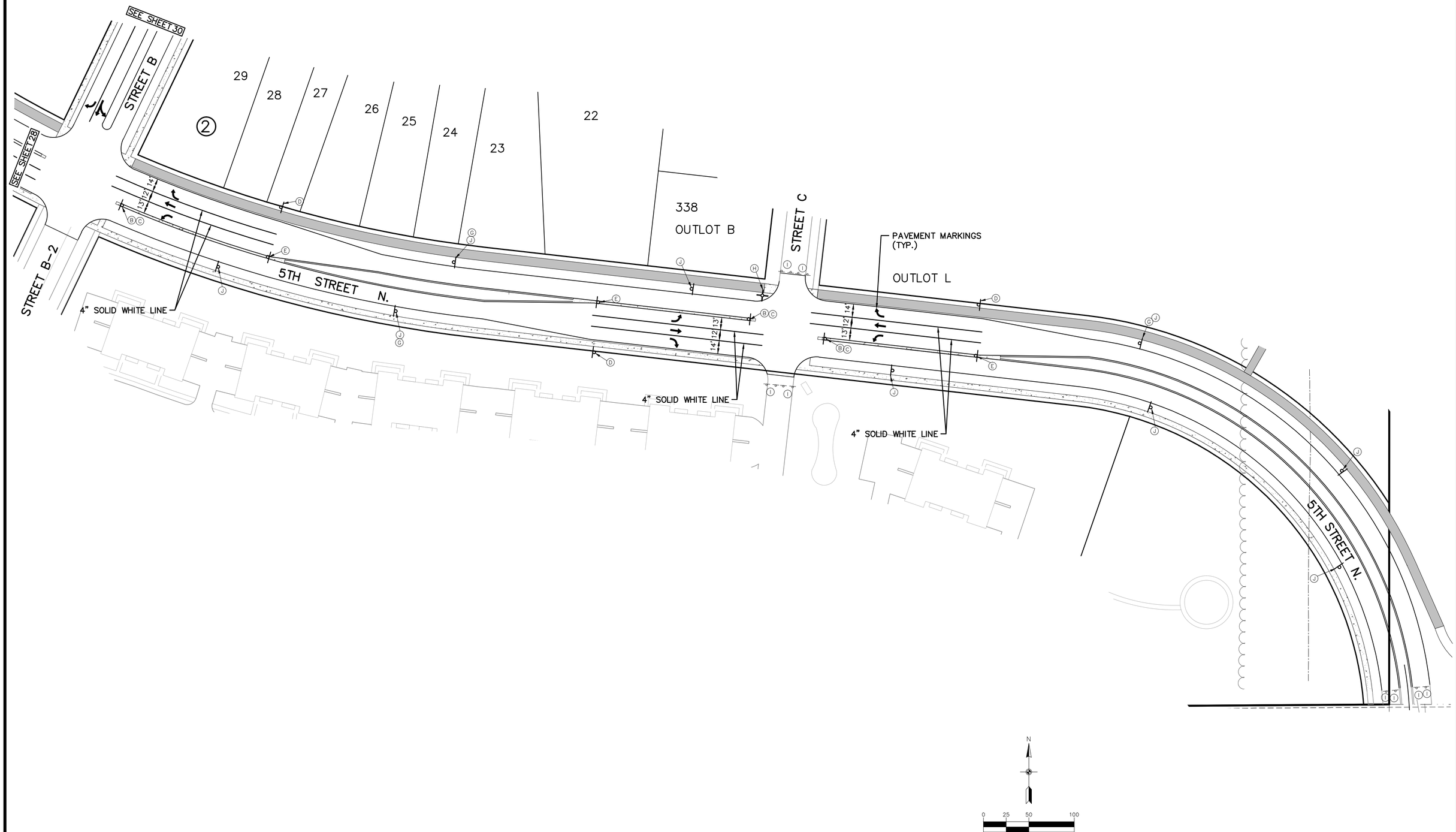

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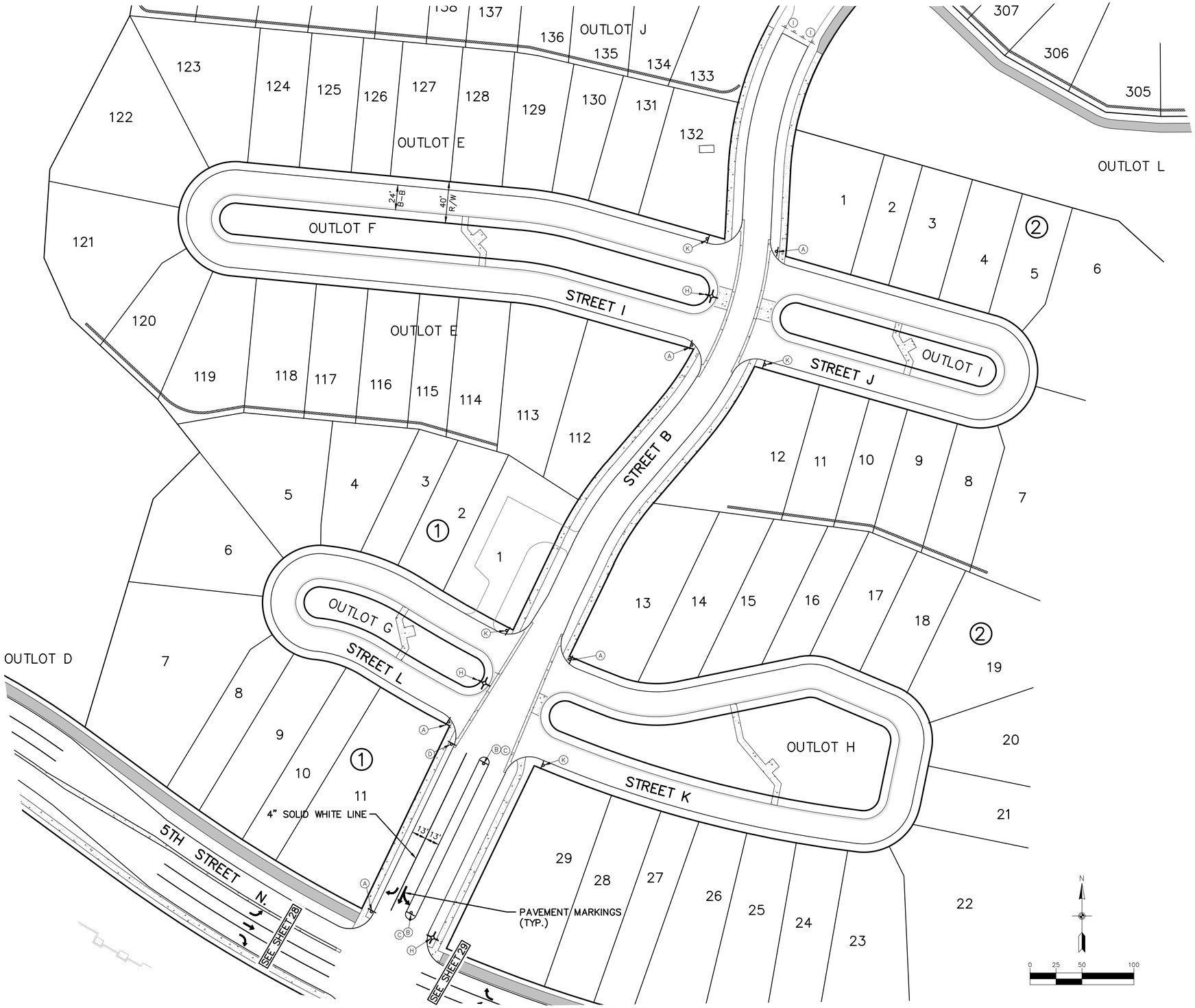

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