

**EXISTING CONDITIONS**

1. BACKGROUND INFORMATION SHOWN IS FROM SURVEY BY LANDFORM PROFESSIONAL SERVICES ON SEPTEMBER 3, 2010, EXPRESSLY FOR THIS PROJECT, CITY OF RAMSEY, MN RECORD DRAWINGS, AND UTILITY SERVICE PROVIDERS. LANDFORM OFFERS NO WARRANTY, EXPRESSED OR WRITTEN, FOR INFORMATION PROVIDED BY OTHERS. EXISTING PROJECT CONDITIONS SHALL BE VERIFIED PRIOR TO BEGINNING CONSTRUCTION. ERRORS, INCONSISTENCIES, OR OMISSIONS DISCOVERED SHALL BE REPORTED TO THE ENGINEER.

I hereby certify that this plan was prepared by me, or under my direct supervision, and that I am a duly Licensed Land Surveyor in the State of Minnesota.  
**PRELIMINARY**  
NOT FOR CONSTRUCTION  
SCOTT THOMPSON  
REGISTERED PROFESSIONAL ENGINEER  
Digital signature is a digital reproduction of original. We warrant copies of this plan on file at Landform Engineering Company Office and as provided upon request.

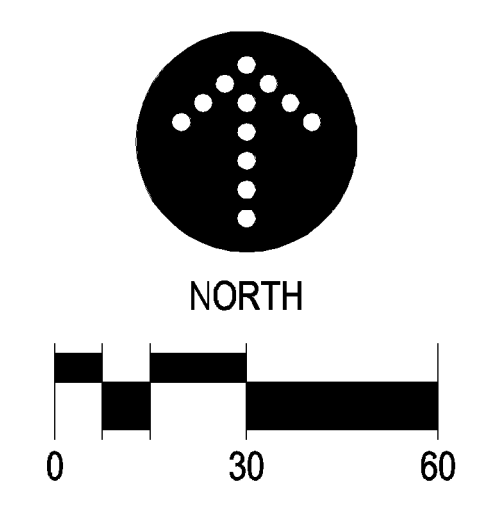
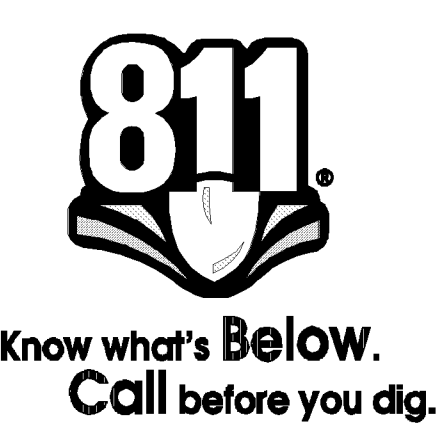
REVISIONS

#	Date	Description

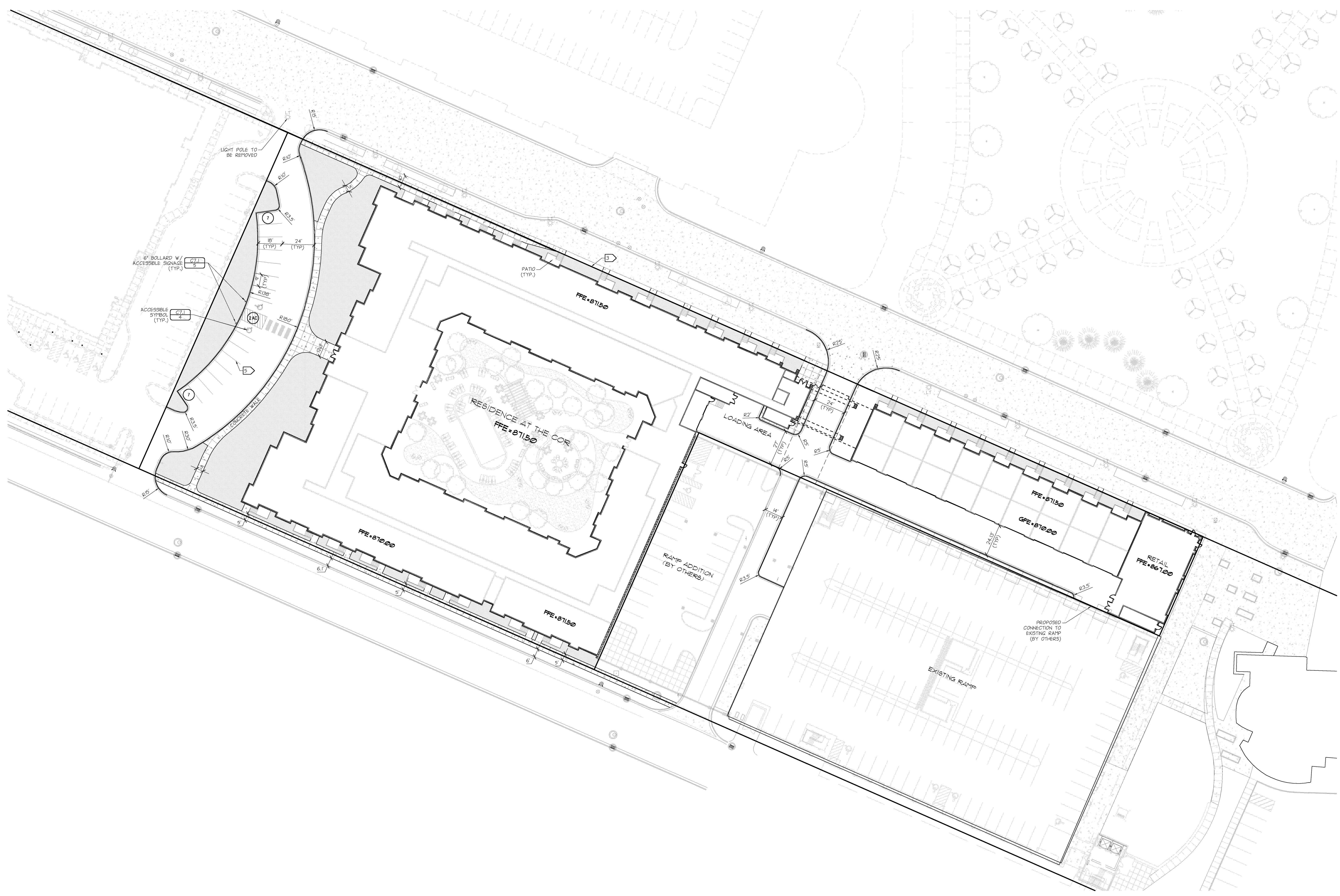
DATE	12/03/2010
PROJECT #	10-0064
PHASE	Final Site Plan Submittal
DRAWN BY	SES
CHECKED BY	DWH

EXISTING CONDITIONS

C101







**SITE PLAN NOTES**

- OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WITHIN OR USE OF, PUBLIC RIGHT-OF-WAY.
- THE DIGITAL FILE, WHICH CAN BE OBTAINED FROM THE ENGINEER, SHALL BE USED FOR STAKING. DISCREPANCIES BETWEEN THE DRAWINGS AND THE DIGITAL FILE SHALL BE REPORTED TO THE ENGINEER. THE BUILDING FOOTPRINT, AS SHOWN ON THESE DRAWINGS, AND THE DIGITAL FILE, SHALL BE COMPARED TO THE STRUCTURAL DRAWINGS PRIOR TO STAKING.
- BUILDING LAYOUT ANGLES ARE PARALLEL WITH OR PERPENDICULAR TO THE PROPERTY LINE AT THE LOCATION INDICATED.
- DIMENSIONS SHOWN ARE TO FACE OF CURB AND EXTERIOR FACE OF BUILDING UNLESS NOTED OTHERWISE.
- DELINEATE PARKING STALLS WITH A 4-INCH WIDE WHITE/YELLOW PAINTED STRIPE. DELINEATE ACCESS AISLES WITH 4-INCH WIDE WHITE/YELLOW PAINTED STRIPES 18 INCHES ON CENTER AND AT 45 DEGREE ANGLE TO DIRECTION OF TRAVEL.
- TRASH/RECYCLING AREAS: SEE ARCHITECTURAL DRAWINGS.

GREEN SPACE (LANDSCAPE AREA)

**PARKING SUMMARY**

PROVIDED PARKING:

STANDARD STALLS (9'x18')	14 EA.
ACCESSIBLE STALLS (9'x18')	2 EA.
TOTAL PARKING STALLS PROVIDED	16 EA.

**AREA SUMMARY**

<b>EXISTING:</b>		
PERVIOUS	130,064 S.F.	98.4%
IMPERVIOUS	2,043 S.F.	1.6%
TOTAL (3.03 AC)	132,107 S.F.	100.0%
<b>PROPOSED:</b>		
PERVIOUS	16,562 S.F.	22.5%
IMPERVIOUS	115,945 S.F.	87.5%
TOTAL (3.03 AC)	132,107 S.F.	100.0%

**FLOOR AREA RATIO**

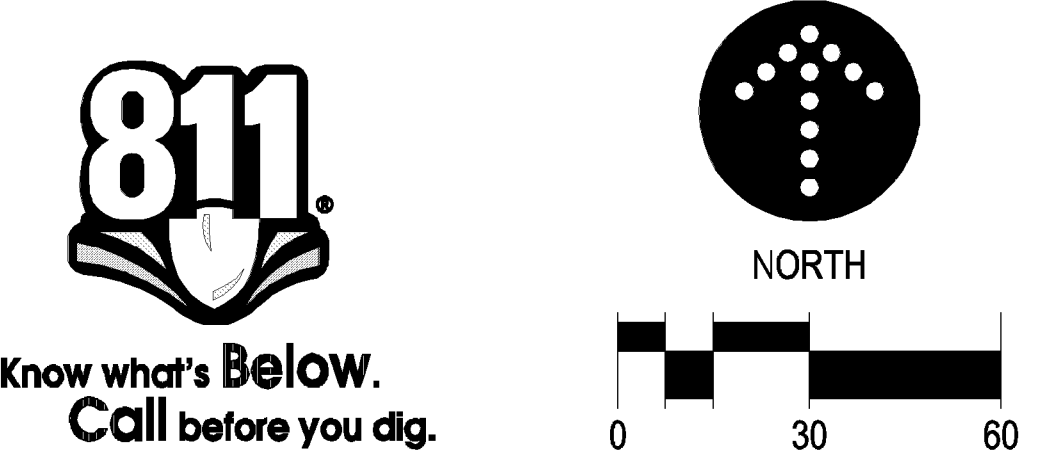
FLOOR AREA RATIO = 254,534 SF / 132,107 SF = 1.93

**BUILDING SUMMARY**

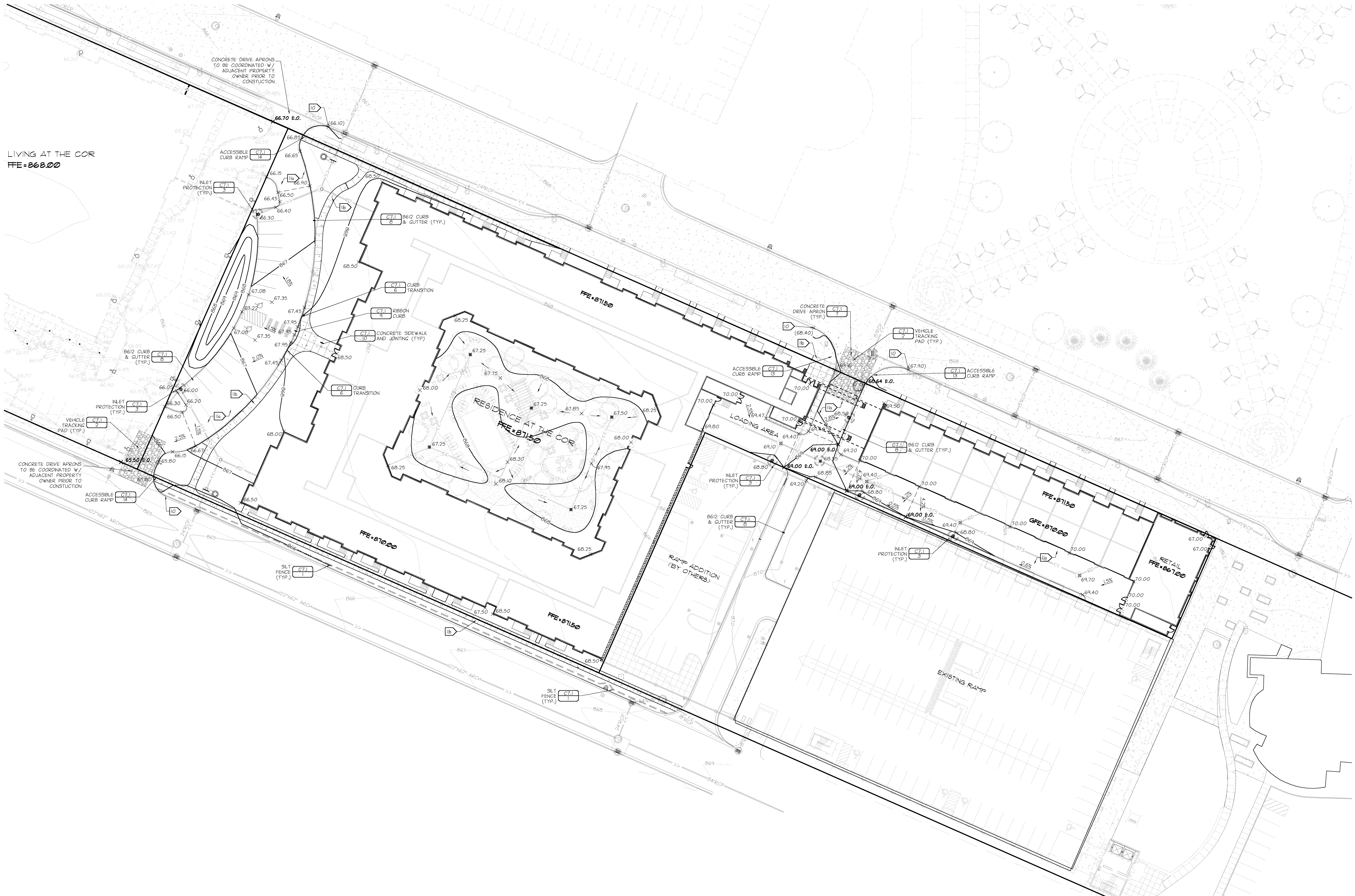
TOTAL NUMBER OF UNITS = 230  
 PROPOSED BUILDING GROSS SQUARE FOOTAGE = 254,534 S.F.  
 NET DENSITY = 76 PER ACRE  
 TOTAL LOT SIZE = 132,107 S.F.  
 TOTAL SITE COVERAGE OF BUILDING = 5%

**ZONING AND PARKING SUMMARY**

THE PROPERTY IS ZONED TC-1  
 BUILDING SETBACK INFORMATION IS AS FOLLOWS:  
 FRONT YARD = 0'-5' BUILD TO LINE  
 REAR = 0 FT.  
 SIDE = 0 FT.  
 PARKING SETBACK INFORMATION IS AS FOLLOWS:  
 FRONT YARD = 0 FT.  
 SIDE = 0 FT.



LIVING AT THE COR  
FFE=868.00



**GRADING NOTES**

- CONTACT UTILITY SERVICE PROVIDERS FOR FIELD LOCATION OF SERVICES 72 HOURS PRIOR TO BEGINNING GRADING.
- REFER TO THE PRELIMINARY GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION ON BACKFILL MATERIAL AND GROUNDWATER CONDITIONS.
- REMOVE TOPSOIL FROM GRADING AREAS AND STOCKPILE SUFFICIENT QUANTITY FOR REUSE. MATERIALS MAY BE FINED FROM LANDSCAPE AREAS FOR USE ON SITE AND REPLACED WITH EXCESS ORGANIC MATERIAL WITH PRIOR OWNER APPROVAL.
- REMOVE SURFACE AND GROUND WATER FROM EXCAVATIONS. PROVIDE INITIAL LIFTS OF STABLE FOUNDATION MATERIAL IF EXPOSED SOILS ARE WET AND UNSTABLE.
- REFER TO STRUCTURAL SPECIFICATIONS FOR EARTHWORK REQUIREMENTS FOR BUILDING PADS.
- AN INDEPENDENT TESTING FIRM SHALL VERIFY THE REMOVAL OF ORGANIC AND UNSUITABLE SOILS. SOIL CORRECTION AND COMPACTION AND PROVIDE PERIODIC REPORTS TO THE OWNER.
- PLACE AND COMPACT FILL USING LIFT THICKNESSES MATCHED TO SOIL TYPE AND COMPACTION EQUIPMENT TO OBTAIN SPECIFIED COMPACTION THROUGHOUT THE LIFT.
- COMPACT MATERIAL IN PAVED AREAS TO 95% OF MAXIMUM DRY DENSITY, STANDARD PROCTOR (ASTM D698) EXCEPT THE TOP 3 FEET WHICH SHALL BE COMPACTED TO 100%. COMPACT TO 98% DENSITY WHERE FILL DEPTH EXCEEDS 10 FEET.

**PAVING NOTES**

- SPOT ELEVATIONS AT CURBLINES INDICATE FLOWLINES UNLESS NOTED OTHERWISE. SEE SHEET C41 FOR RIM ELEVATIONS OF CATCH BASINS.
- MEET AND MATCH EXISTING CURB. PROVIDE 3 FOOT TRANSITION.
- PAVING SECTIONS (PRELIMINARY, REFER TO GEOTECHNICAL RECOMMENDATIONS)
  - BITUMINOUS PAVING
    - 1.5-INCH WEAR
    - 1/2-INCH COAT
    - 1.5-INCH BASE
    - 6-INCH AGGREGATE BASE (INDOT 313B, CLASS 5)
    - COMPACTED SUBSOIL
  - CONCRETE WALKWAYS
    - 4-INCH CONCRETE WALK
    - 4-INCH AGGREGATE BASE (INDOT 313B, CLASS 5)
    - COMPACTED SUBSOIL
  - CONCRETE DRIVES, APRONS, AND EXTERIOR SLABS
    - 8-INCH CONCRETE W/ #4 REBAR AT 16 INCHES OC
    - 6-INCH AGGREGATE BASE (INDOT 313B, CLASS 5)

**EROSION PREVENTION AND SEDIMENT CONTROL NOTES**

- INSTALL PERIMETER SEDIMENT CONTROLS PRIOR TO BEGINNING WORK AND MAINTAIN FOR DURATION OF CONSTRUCTION. REMOVE CONTROLS AFTER AREAS CONTRIBUTING RUN OFF ARE PERMANENTLY STABILIZED AND DISPOSED OFF SITE.
- LIMIT SOIL DISTURBANCE TO THE GRADING LIFTS SHOWN. SCHEDULE OPERATIONS TO MINIMIZE LENGTH OF EXPOSURE OF DISTURBED AREAS.
- MANAGEMENT PRACTICES SHOWN ARE THE MINIMUM REQUIREMENT. INSTALL AND MAINTAIN ADDITIONAL CONTROLS AS WORK PROCEEDS TO PREVENT EROSION AND CONTROL SEDIMENT CAUSED BY WIND OR WATER.
- RESTORE DISTURBED OPEN AREAS WITH TEMPORARY SEED OR SOO WITHIN 72 HOURS OF COMPLETING GRADING IN EACH AREA.
- SEED, SOO, MULCH AND FERTILIZER SHALL MEET THE FOLLOWING SPECIFICATIONS, AS MODIFIED:
 

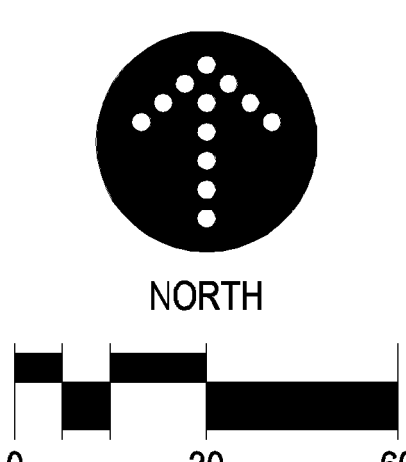
	SPECIFICATION NUMBER
TERR	INDOT 3878
SEED	INDOT 3876
TYPE 50 @ 40 LB/AC	
TYPE 10A @ 60 LB/AC	
MULCH (TYPE 1, 25% ANGIOSEED)	INDOT 3882
FERTILIZER	INDOT 3881
GENERAL PLACEMENT	INDOT 2575
- SEE LANDSCAPING SHEETS FOR PERMANENT TURF ESTABLISHMENT.
- SCRAPE ADJACENT STREETS CLEAN DAILY AND SWEEP CLEAN WEEKLY.
- ANY IMPACTS TO CITY STREETS (WET TAP AND CURB CUT LOCATIONS) SHOULD BE BROUGHT TO GRADE WITH CLASS 5 BY THE END OF THE WORK DAY AND PAVED WITHIN 24 HOURS.
- THE CONTRACTOR SHOULD HAVE A SWEEPER ON SITE OR AVAILABLE WITHIN 3 HOURS. ALL MATERIAL TRACKED ONTO CITY STREETS MUST BE REMOVED IMMEDIATELY UPON DISCOVERY, OR AS DIRECTED BY THE CITY ENGINEER.
- INSTALLATION OF SILT FENCE AND OTHER DOWN GRADIENT SEDIMENT PROTECTION MEASURES SHALL BE COMPLETED AND INSPECTED PRIOR TO COMMENCEMENT OF ANY SITE ACTIVITIES.
- UPON COMPLETION OF CONSTRUCTION AND RESTORATION OF DISTURBED AREAS, CONTRACTOR SHALL REMOVE ALL EROSION CONTROL MEASURES INSTALLED THROUGHOUT THE CONSTRUCTION SITE.

**NPDES AREA SUMMARY**

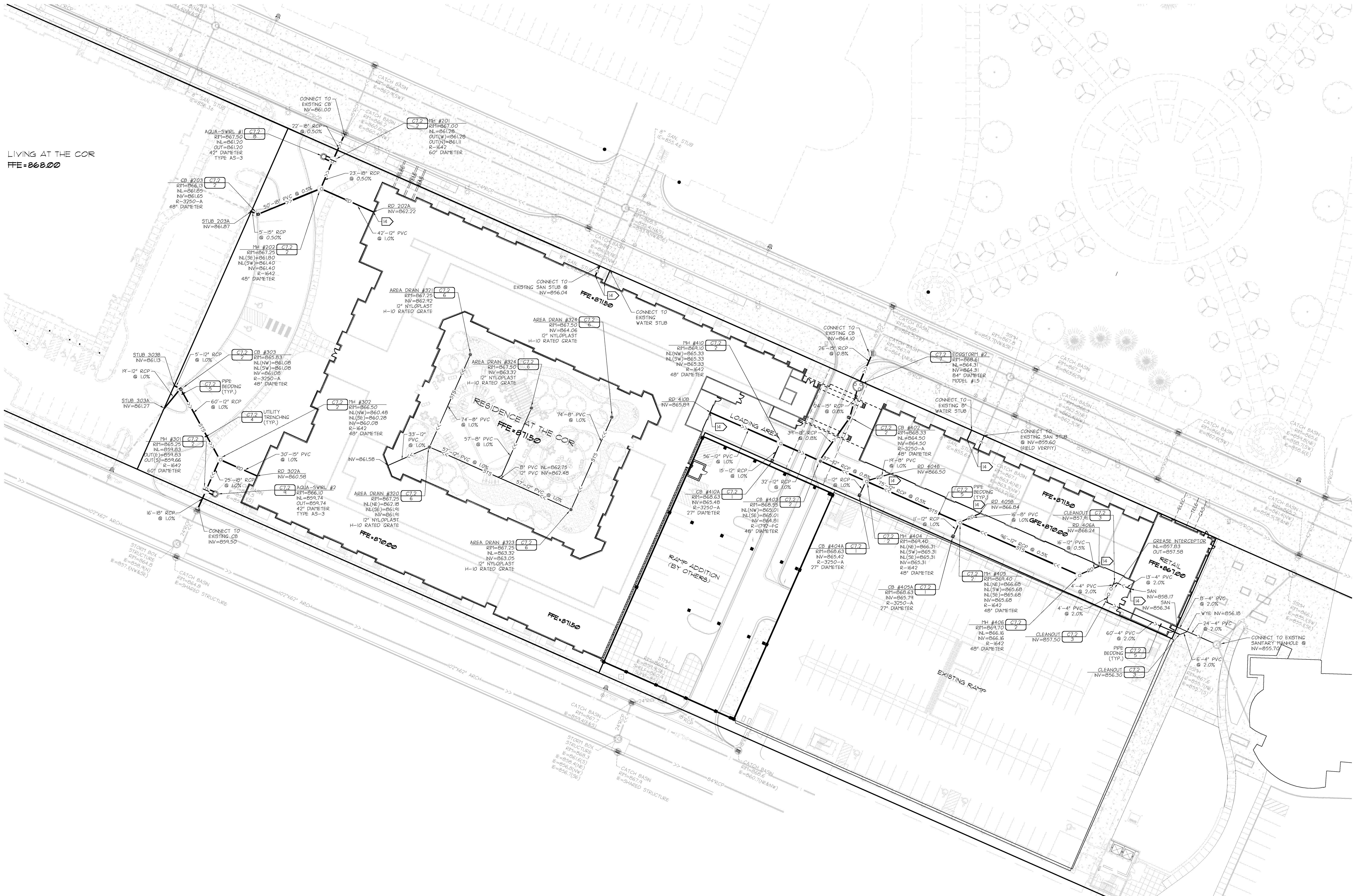
	EXISTING	PROPOSED	ULTIMATE
PERVIOUS	2.98 ACRES	0.38 ACRES	0.38 ACRES
IMPERVIOUS	0.05 ACRES	2.65 ACRES	2.65 ACRES
TOTAL	3.03 ACRES	3.03 ACRES	3.03 ACRES

**LEGEND**

- INLET PROTECTION (REFER TO SHEET C7.1)
- SILT FENCE
- CURB TRANSITION



LIVING AT THE COR  
FFE=868.00



UTILITY NOTES

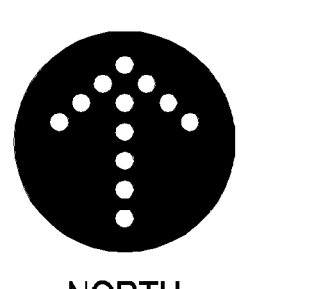
- PIPE MATERIALS  
WATERMAN DP CLASS 50  
WATER SERVICE TYPE K COPPER  
SANITARY SEWER PVC SDR 35  
STORM SEWER PVC SCHEDULE 40  
RCP CLASS 5
- CONTACT UTILITY SERVICE PROVIDERS FOR FIELD LOCATION OF SERVICES 72 HOURS PRIOR TO BEGINNING.
- COORDINATE WITH PRIVATE UTILITIES TO PROVIDE ELECTRIC, NATURAL GAS, AND COMMUNICATIONS SERVICES TO BUILDING.
- PROVIDE MEANS AND MEASURES TO PROTECT ADJACENT PROPERTY FROM DAMAGE DURING UTILITY INSTALLATION.
- PIPE LENGTHS SHOWN ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE OR END OF END SECTION.
- ADJUST STRUCTURES TO FINAL GRADE WHERE DISTURBED. COMPLY WITH REQUIREMENTS OF UTILITY. MEET REQUIREMENTS FOR TRAFFIC LOADING IN PAVED AREAS.
- INSTALL TRACER WIRE WITH UTILITIES WITHIN THE PUBLIC RIGHT-OF-WAY OR EASEMENTS.
- CONNECT TO CITY UTILITIES IN ACCORDANCE WITH CITY OF RAMSEY STANDARDS.
- CONTACT CITY OF RAMSEY FOR WET TAP INSPECTION.
- MAINTAIN 7.5 FEET OF COVER ON WATER.
- DEFLECT WATER TO MAINTAIN 18-INCH MINIMUM OUTSIDE SEPARATION AT SEWER CROSSINGS. CENTER PIPE LENGTHS TO PROVIDE GREATEST SEPARATION BETWEEN JOINTS.
- CONTACT CITY OF RAMSEY BUILDING DEPARTMENT FOR FLUSHING AND PRESSURE TEST INSPECTIONS.
- PROVIDE 4-INCH RIGID FOAM INSULATION ON SANITARY SEWER LESS THAN 7 FEET DEEP.
- BRING WATER AND SEWER SERVICES INTO BUILDING PER MECHANICAL DRAWINGS. JOIN AND ROUTE BUILDING STORM DRAINS AND CONNECT TO STORM SEWER MANHOLE.
- CONNECT TO DOWNSPOUT WITH TRANSITION TO 6-INCH PVC AND ROUTE TO STORM SEWER.
- INSTALL IRRIGATION SLEEVES FURNISHED BY IRRIGATION CONTRACTOR.

UTILITY NOTES

- THE PRIMARY ELECTRIC FEED, TRANSFORMER, AND METER ARE PROVIDED AND INSTALLED BY XCEL ENERGY. THE TRANSFORMER PAD DESIGN IS PROVIDED BY THE UTILITY AND CONSTRUCTION IS BY THE CONTRACTOR. CONTACT UTILITY FOR PAD DETAIL. THE SECONDARY ELECTRIC AND CONDUITS SHALL BE INSTALLED BY THE ELECTRICAL CONTRACTOR.
- SEE ELECTRICAL SITE PLAN FOR ADDITIONAL INFORMATION.
- XCEL ENERGY WILL FURNISH AND INSTALL GAS SERVICE PIPING FROM THE MAINLINE TO THE METER. GAS SERVICE FROM THE METER SHALL BE INSTALLED BY THE MECHANICAL CONTRACTOR.
- COORDINATE WITH MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS OF SERVICE CONNECTIONS AND CONTINUATION OF SERVICES WITHIN BUILDING.
- PROVIDE ONE 4-INCH PVC CONDUIT WITH PULL-STRING FROM EXISTING TELEPHONE SERVICE TO BUILDING.
- PROVIDE CONDUITS FOR CABLE TELEVISION AND OTHER ELECTRONIC COMMUNICATION.

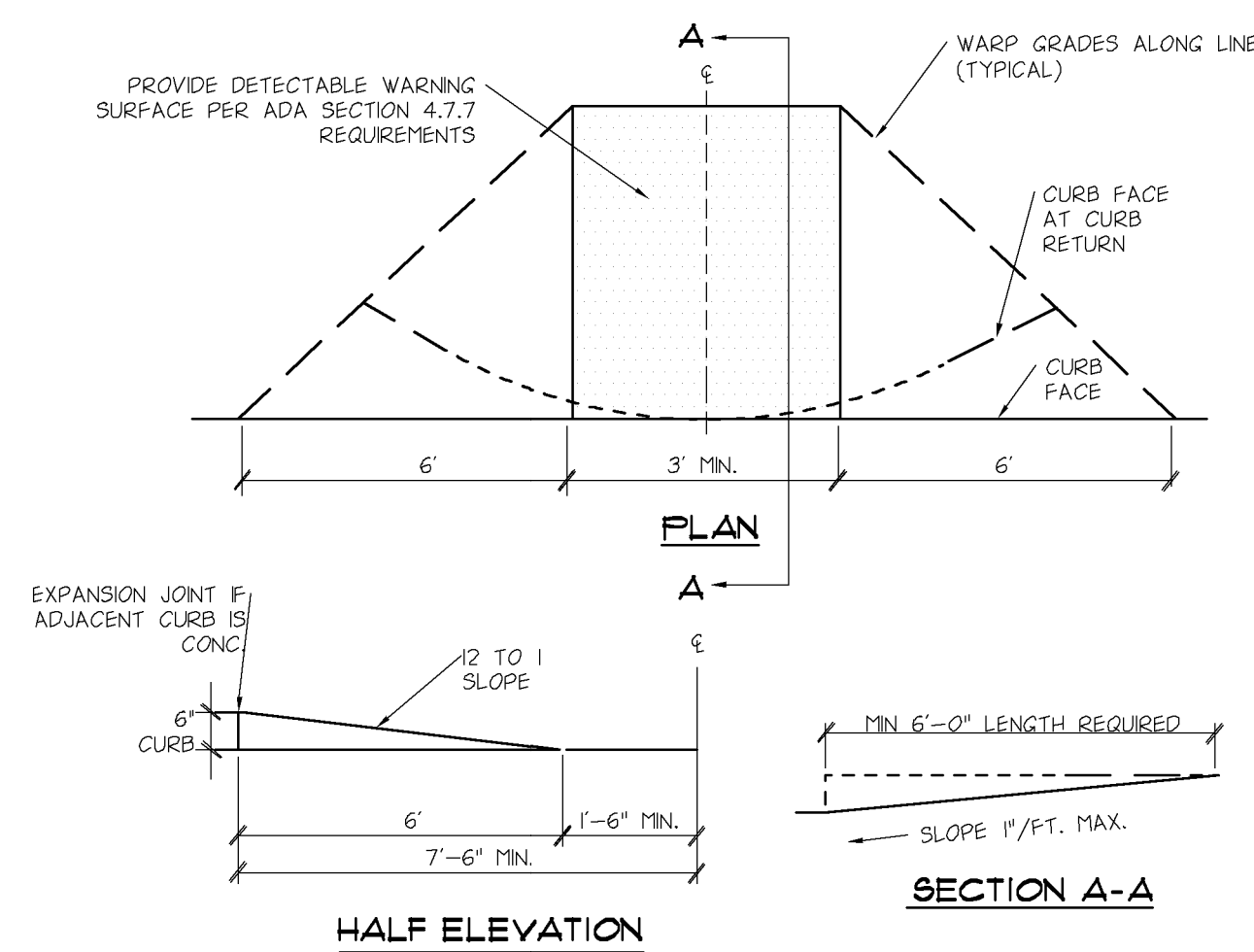


Know what's Below.  
Call before you dig.

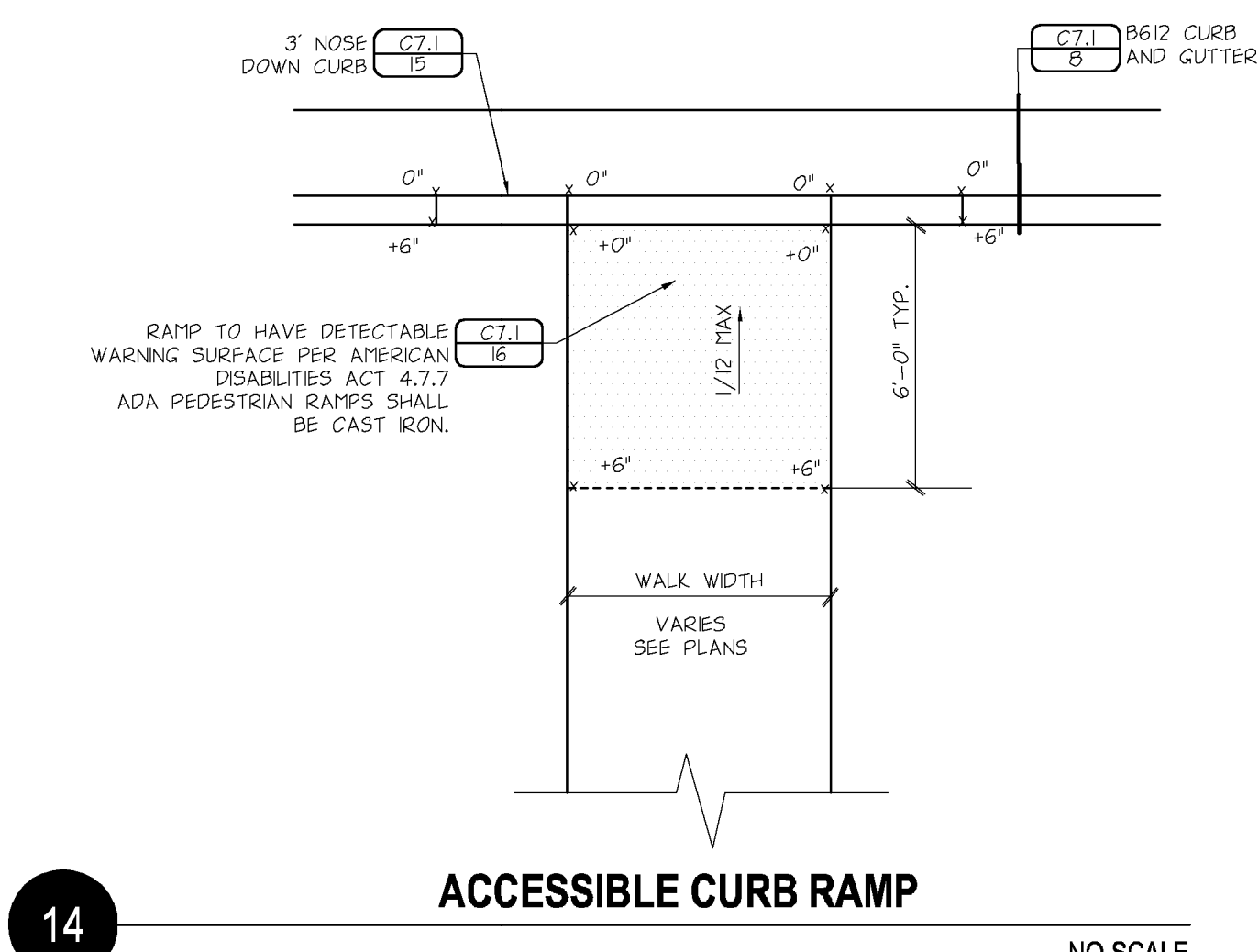


NORTH

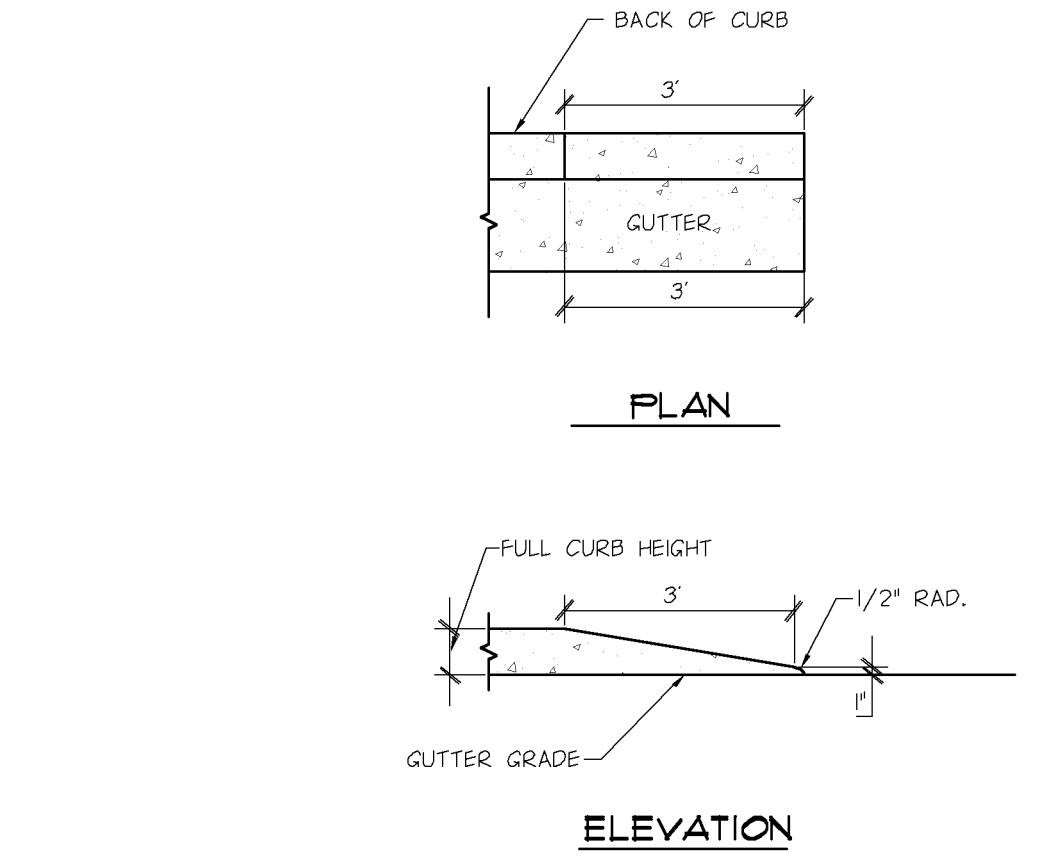




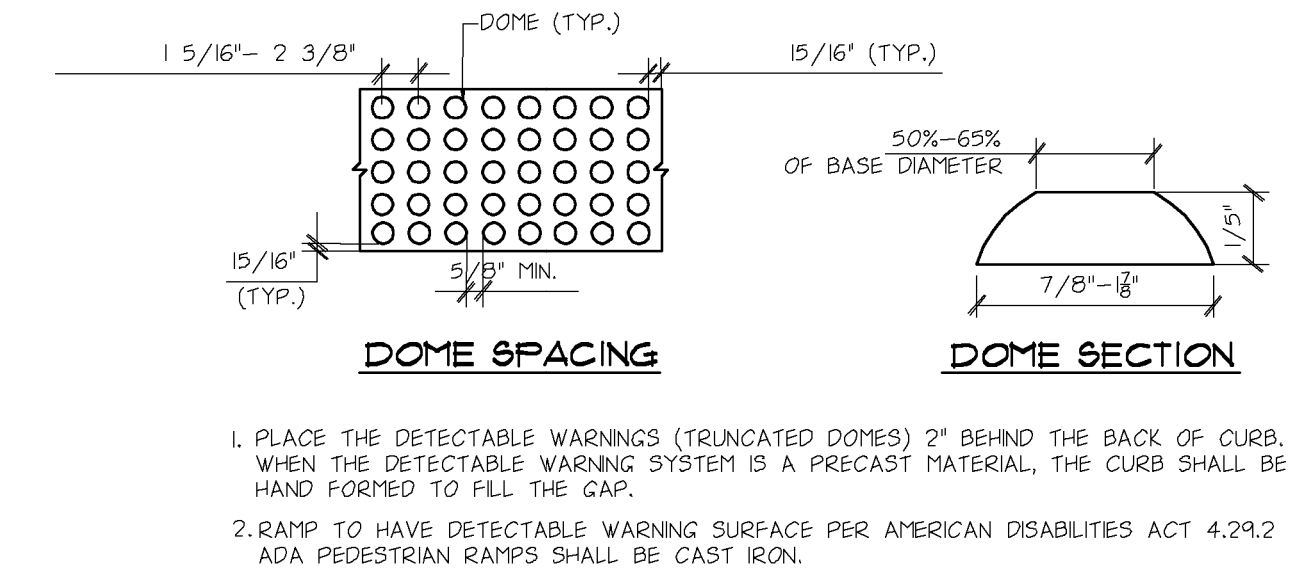
**13 ACCESSIBLE CURB RAMP** NO SCALE



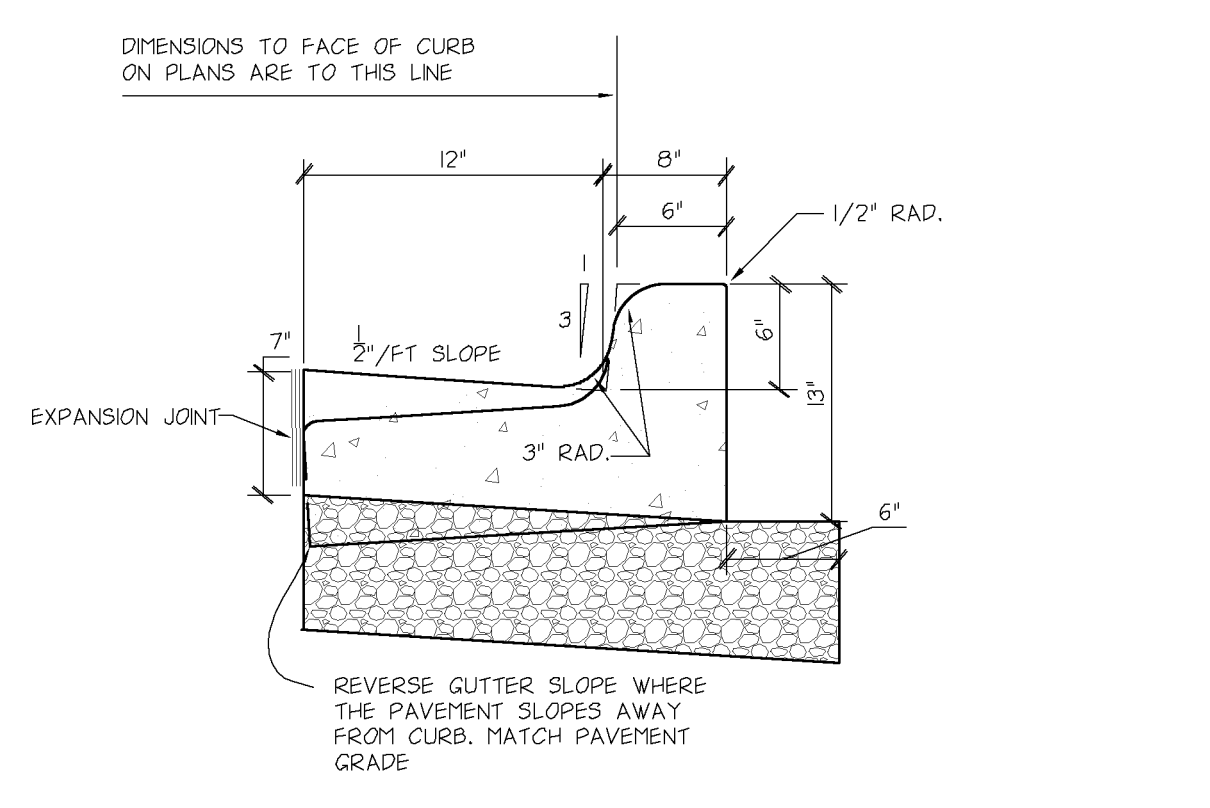
**14 ACCESSIBLE CURB RAMP** NO SCALE



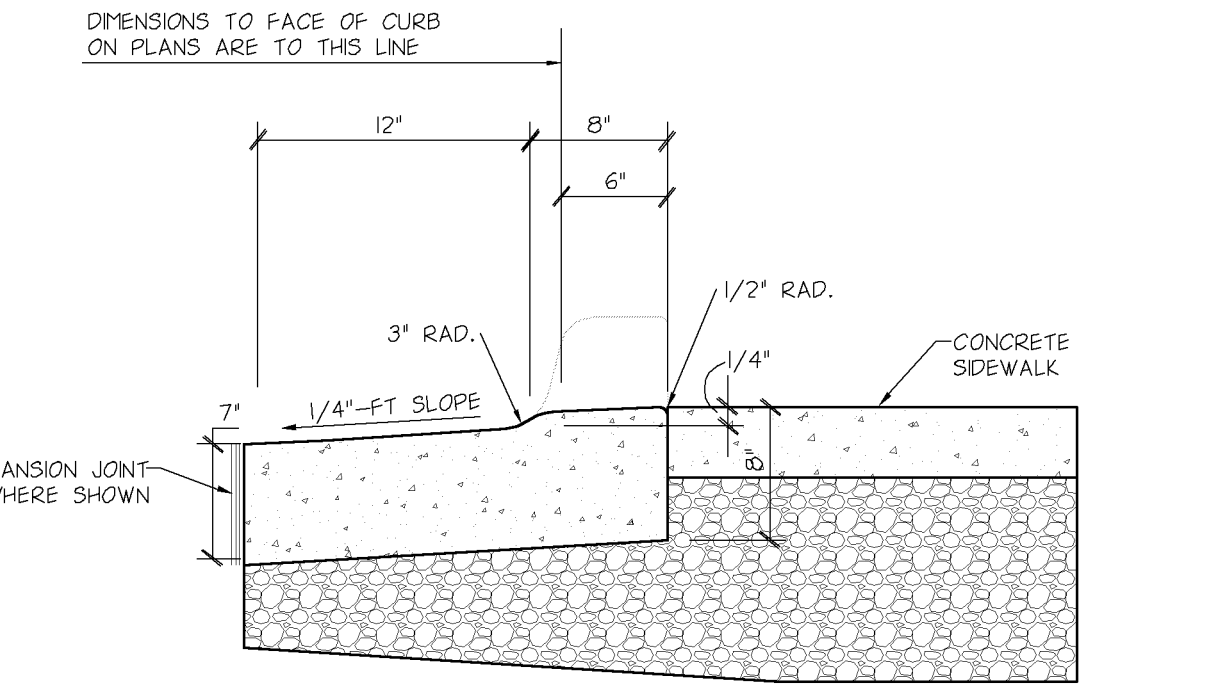
**15 NOSE DOWN CURB** NO SCALE



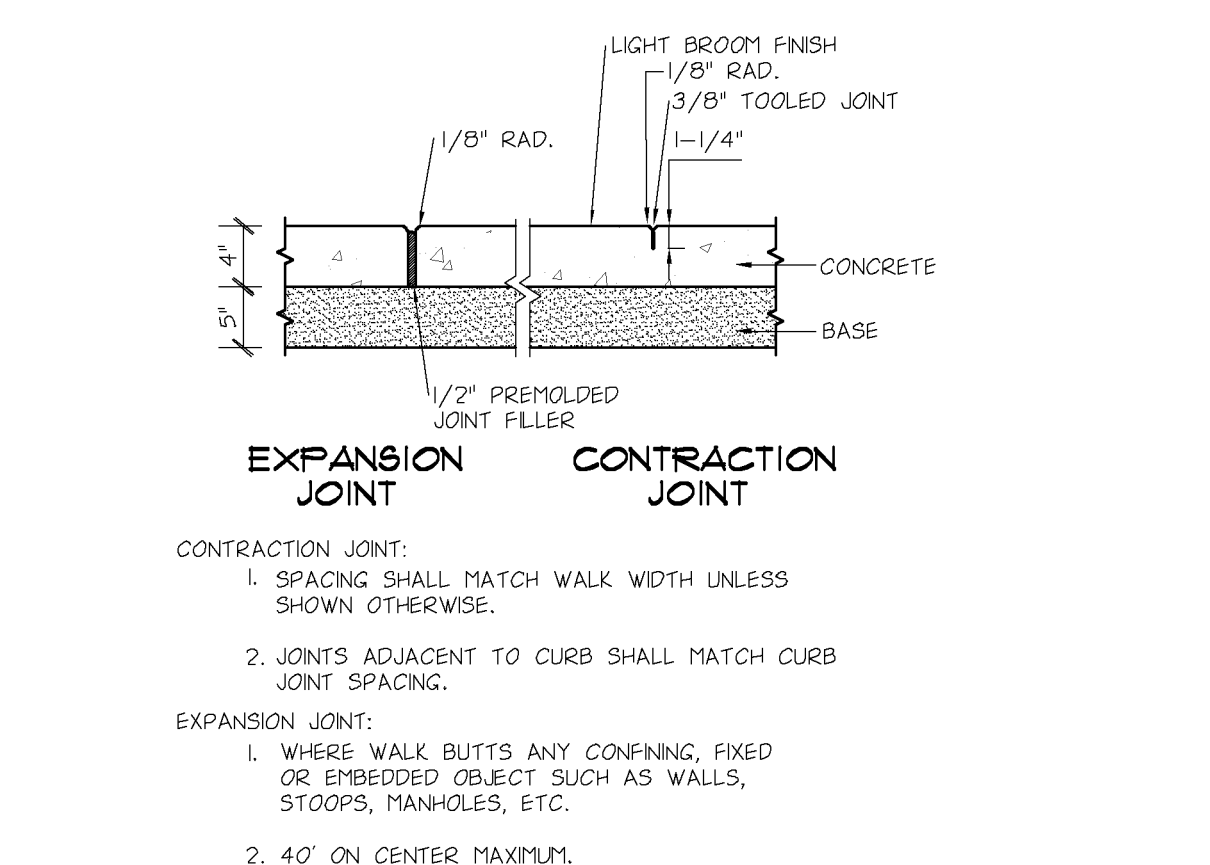
**16 DETECTABLE WARNINGS ADA 4.7.7** NO SCALE



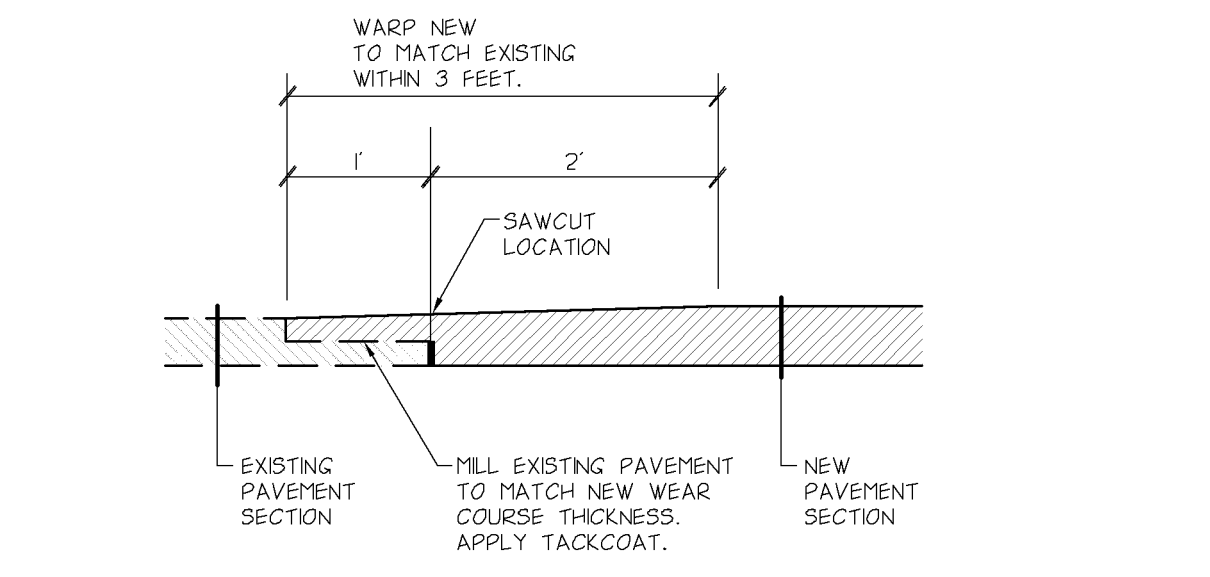
**8 B612 CONCRETE CURB AND GUTTER** NO SCALE



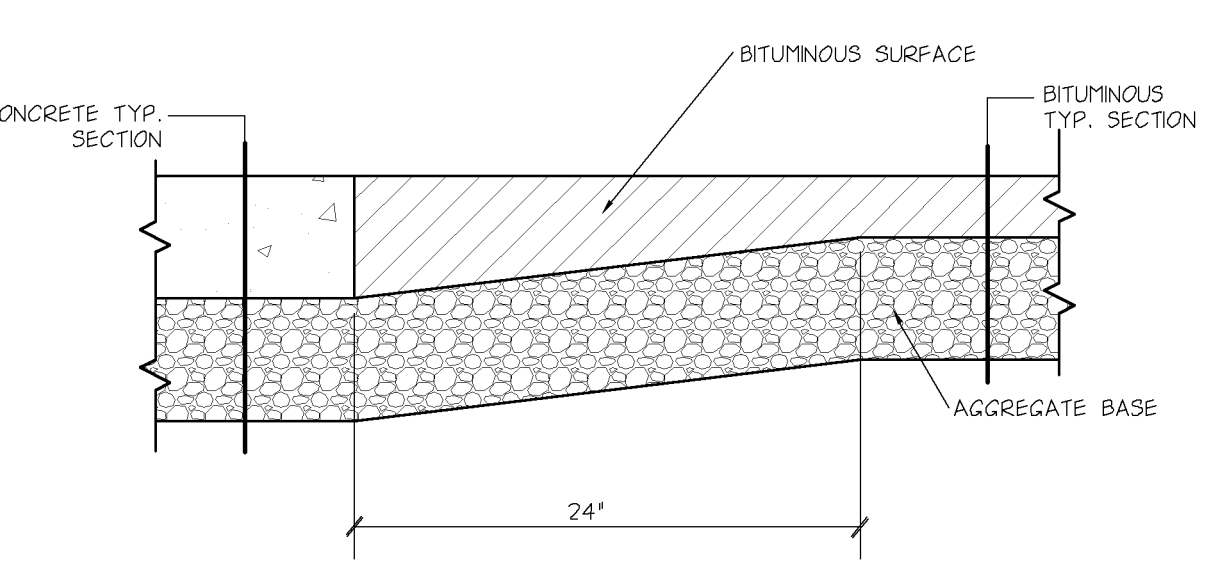
**9 CONCRETE RIBBON CURB** NO SCALE



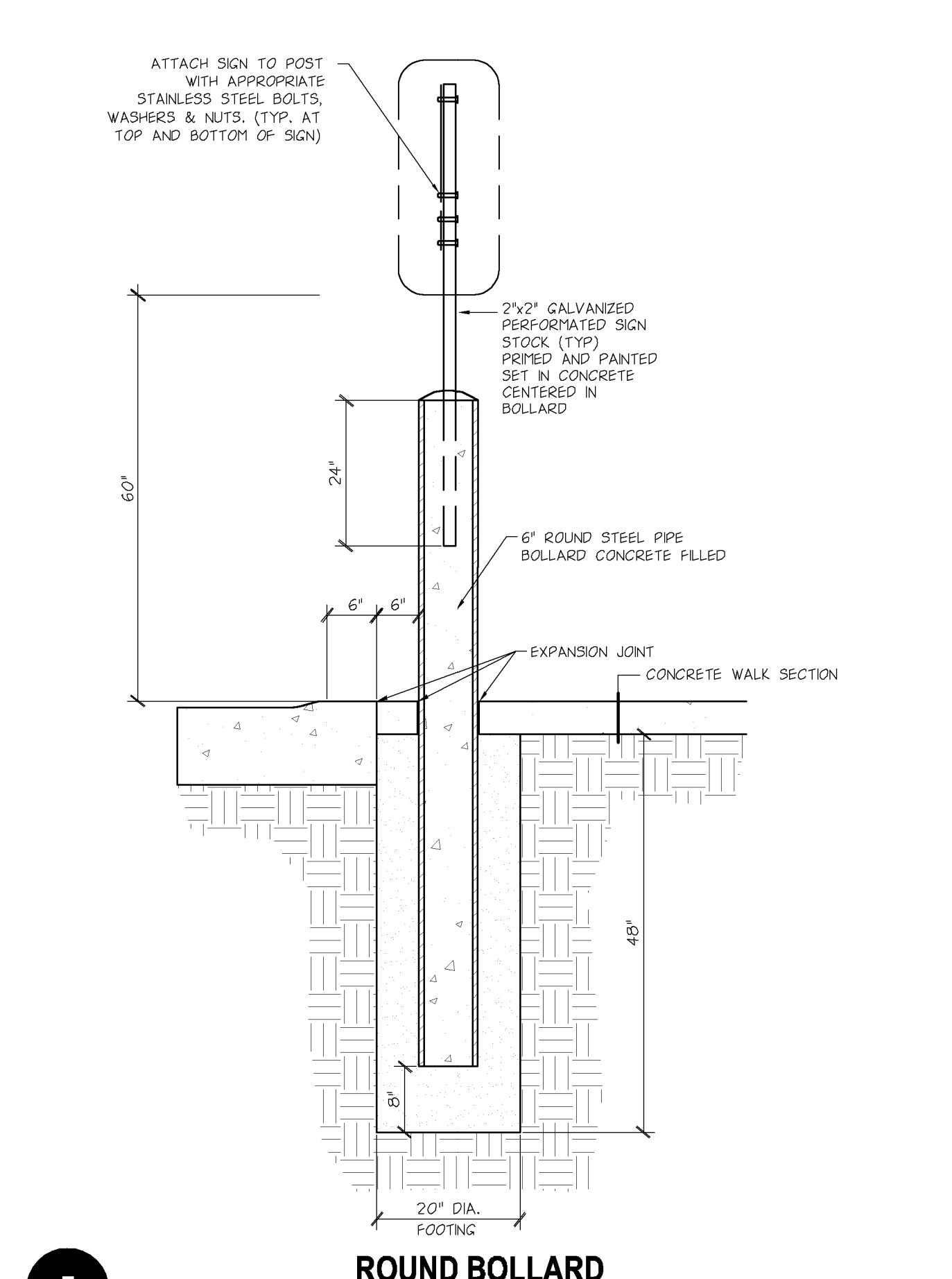
**10 CONCRETE SIDEWALK AND SIDEWALK JOINTING** NO SCALE



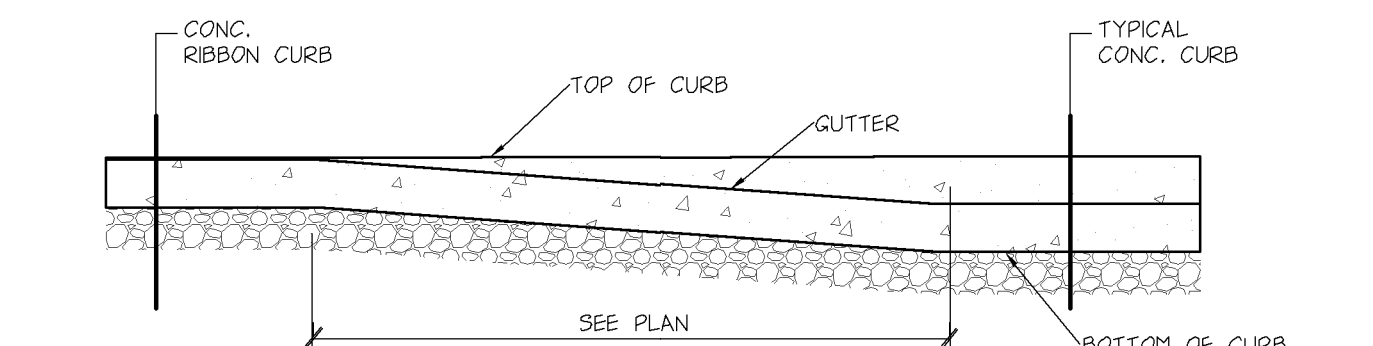
**11 ASPHALT PAVEMENT TRANSITION** NO SCALE



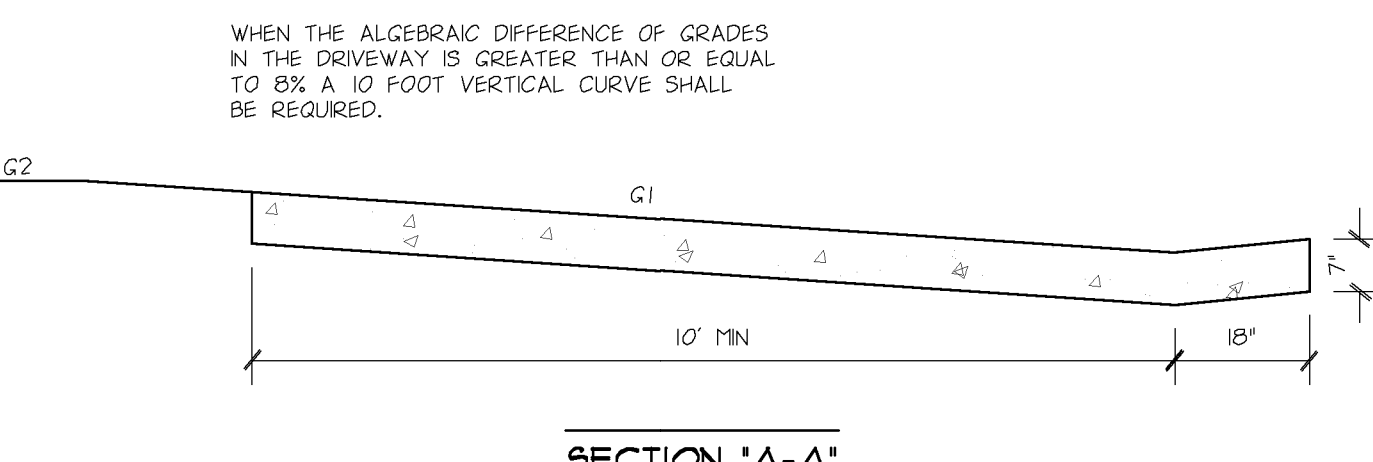
**12 THICKENED BITUMINOUS EDGE AND CONCRETE SURFACE** NO SCALE



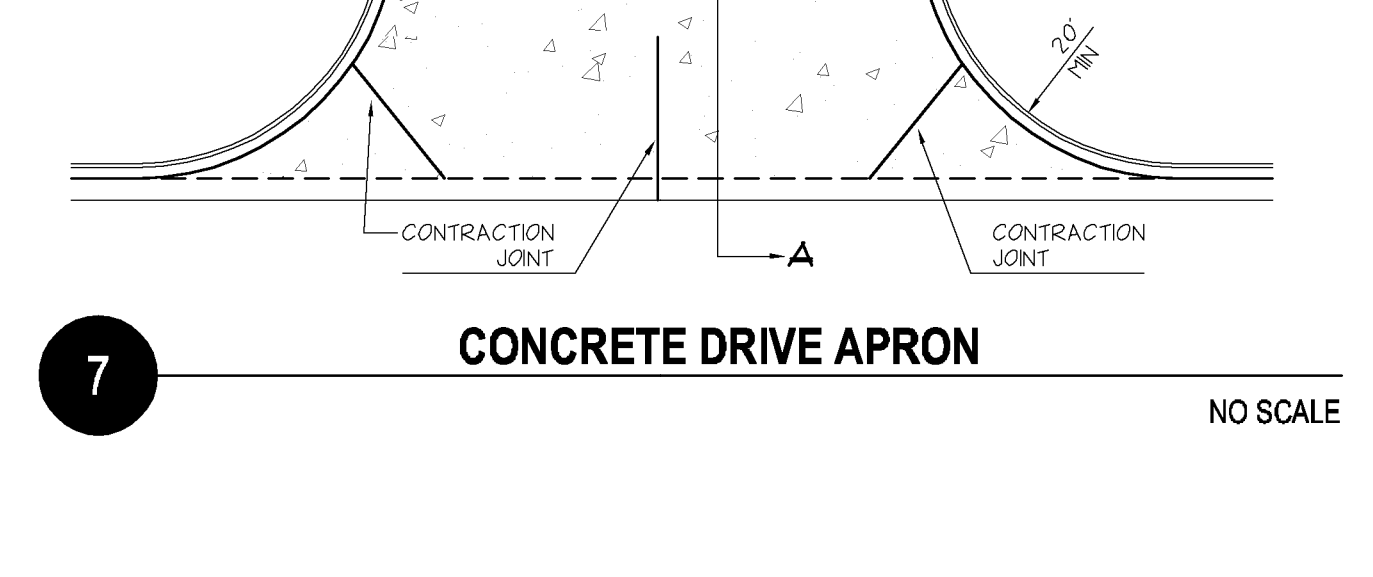
**5 ROUND BOLLARD W/ ACCESSIBLE SIGNAGE** NO SCALE



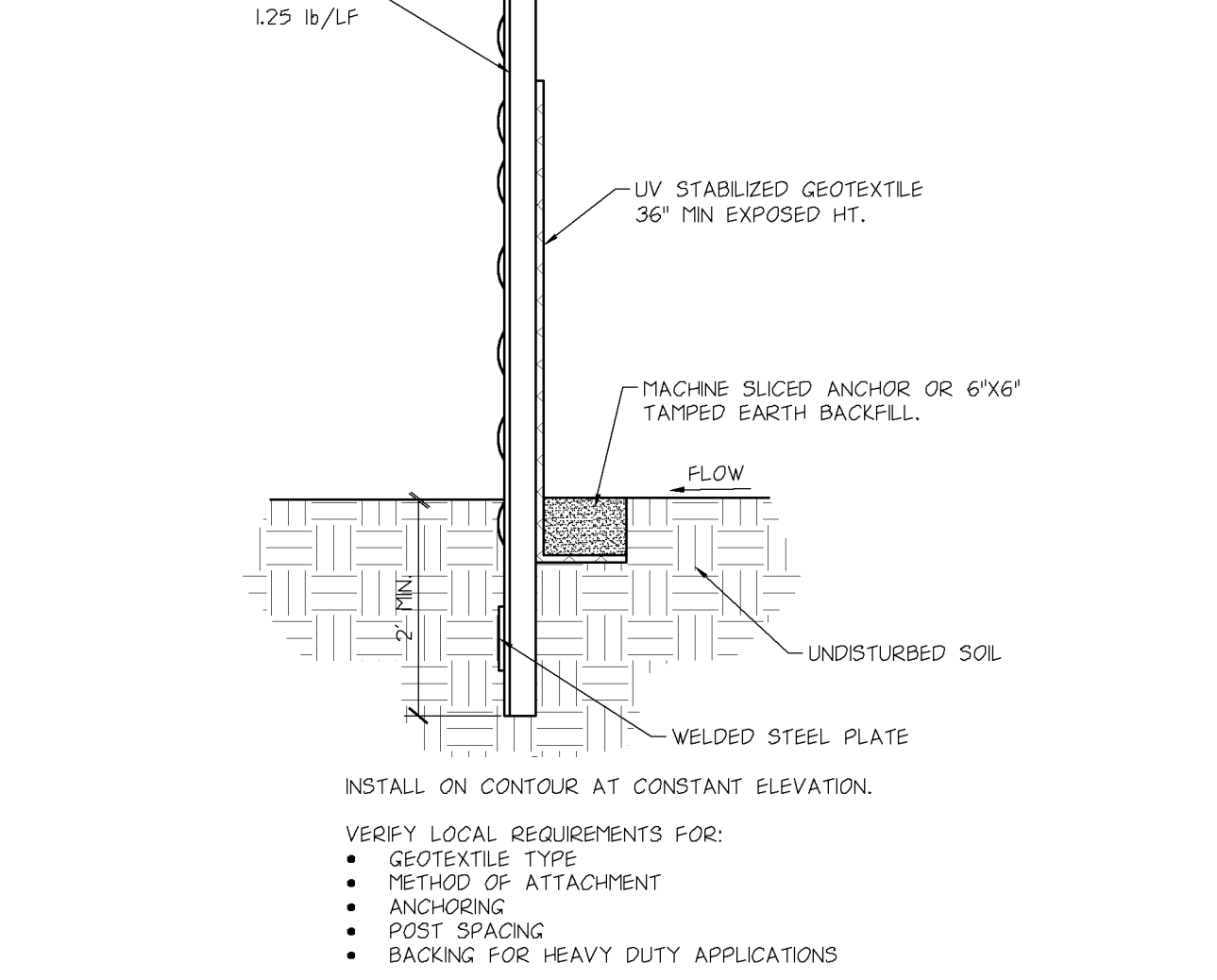
**6 CONCRETE CURB TRANSITION** NO SCALE



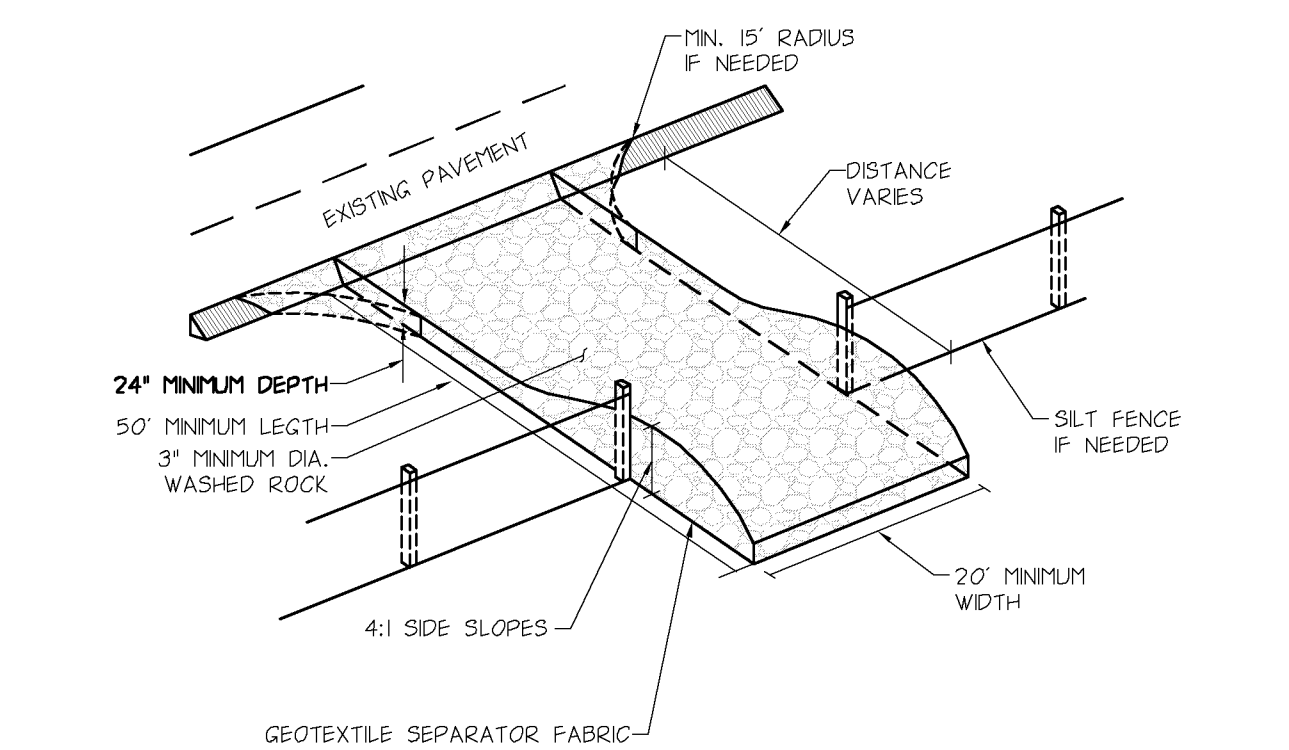
**7 CONCRETE DRIVE APRON** NO SCALE



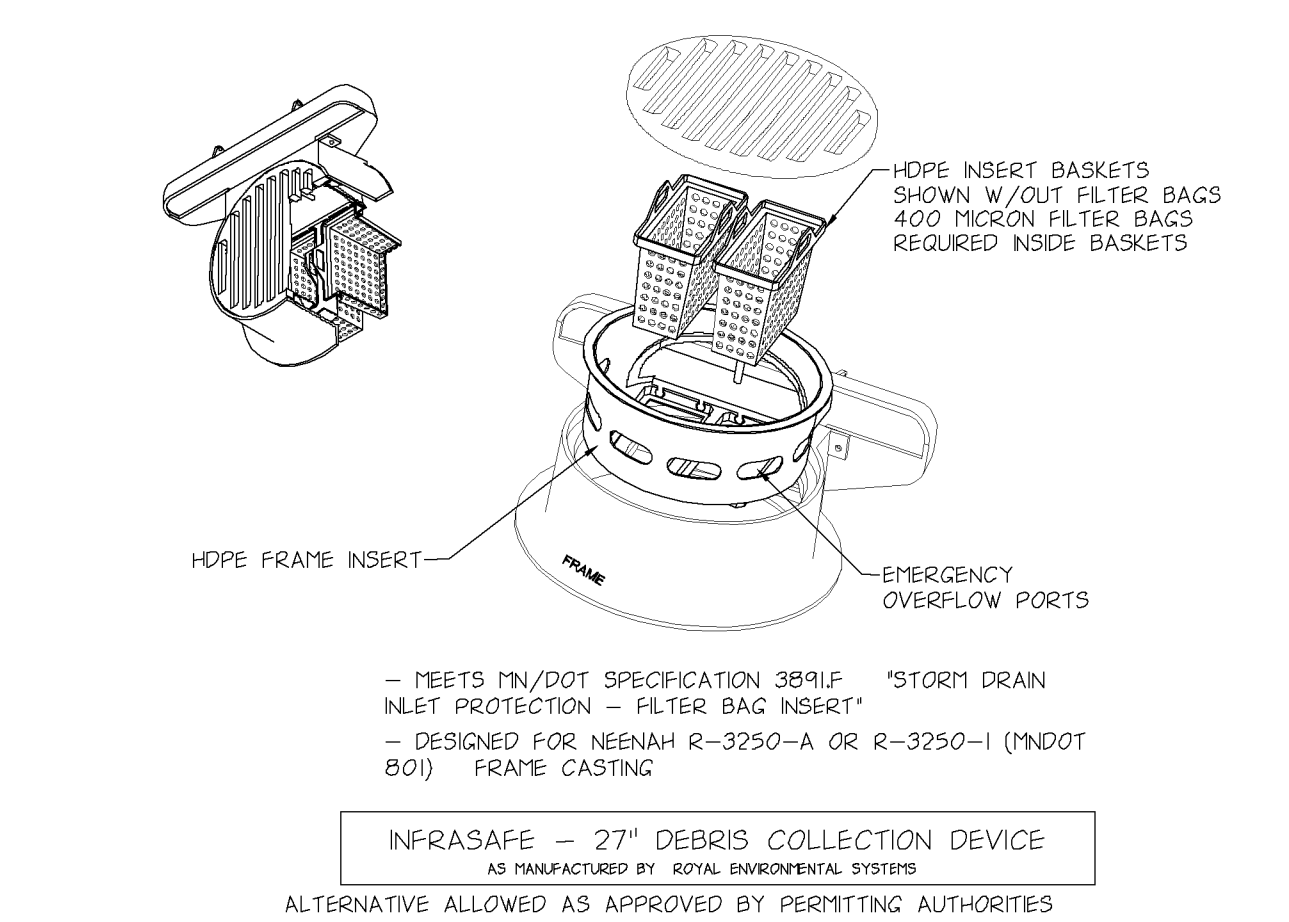
**4 INTERNATIONAL SYMBOL OF ACCESSIBILITY** NO SCALE



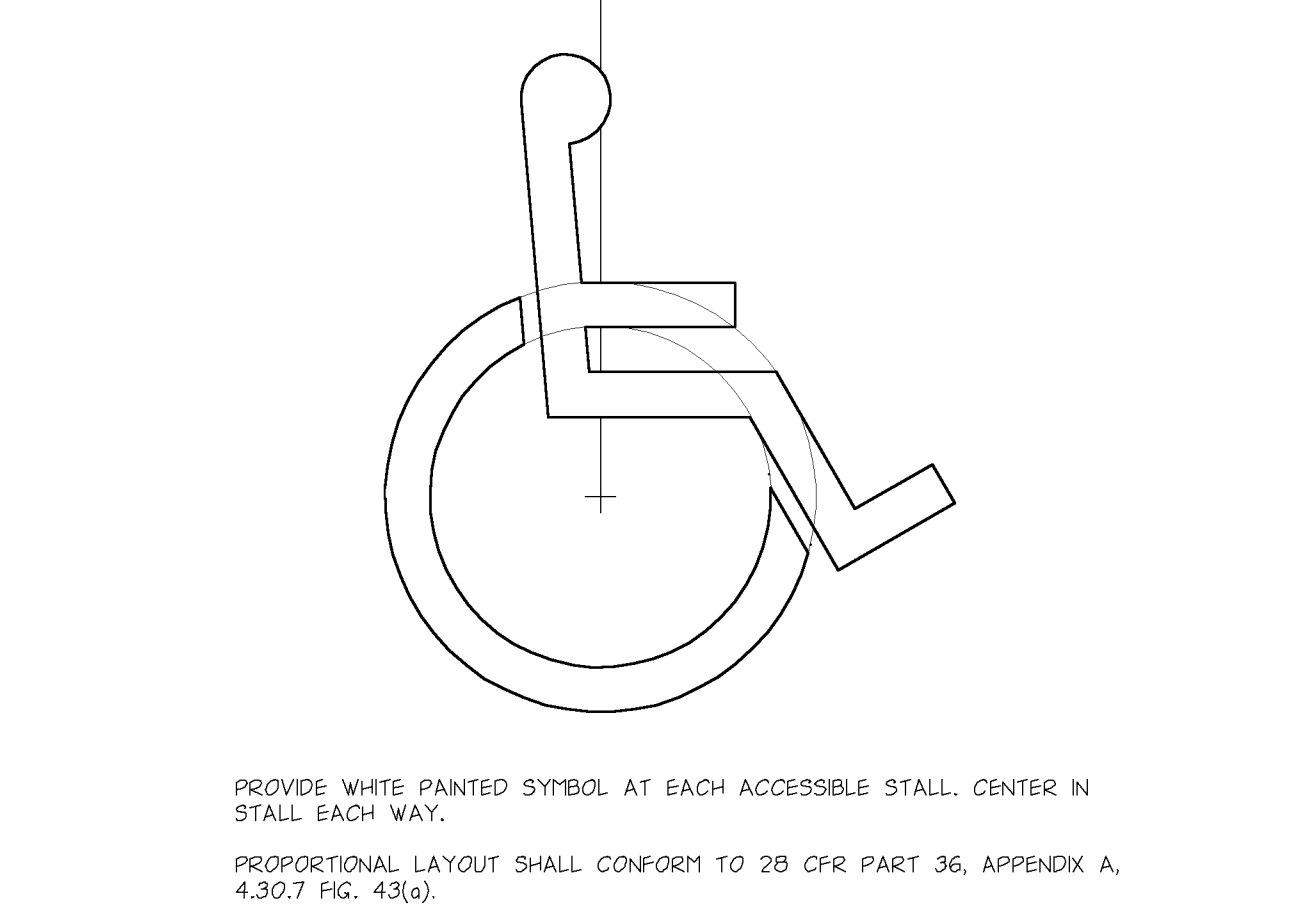
**1 SILT FENCE** NO SCALE



**2 VEHICLE TRACKING PAD** NO SCALE



**3 INLET PROTECTION** NO SCALE



**4 INTERNATIONAL SYMBOL OF ACCESSIBILITY** NO SCALE

REVISIONS	
#	Date Description

DATE	12/03/2010
PROJECT #	10-0064
PHASE	Final Site Plan Submittal
DRAWN BY	SES
CHECKED BY	DWH

PROJECT: RESIDENCE AT THE COR		LOCATION: RAMSEY, MN	
OWNER: CHENSON	SCALE: 1/4" = 1'-0"	DATE: 11-30-10	DESIGN NO.: 10-000001-Rev. 0/0
CONTRACTOR: TBD	OWNER: CHENSON	DATE: 11-30-10	DESIGN NO.: 10-000001-Rev. 0/0
DESIGNER: CHENSON	OWNER: CHENSON	DATE: 11-30-10	DESIGN NO.: 10-000001-Rev. 0/0
PROJECT DESCRIPTION: ecoStorm - storm water infiltration technology	OWNER: CHENSON	DATE: 11-30-10	DESIGN NO.: 10-000001-Rev. 0/0

**ecoStorm** vertical Flow Diffuser

ecoStorm model no.	D1 dia. (ft.)	D2 dia. (ft.)	D3 dia. (ft.)	H1 (ft.)	H2 (ft.)	Flow Diffuser
1.5	7.00	2.50	15.00	18.00	6.00	15.00

**ecoStorm #2 Online**

**GENERAL NOTES:**  
 1. MANHOLE DESIGN SHALL BE IN ACCORDANCE WITH THE LATEST A.S.T.M. CODE SPEC. FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS.  
 2. DESIGN LOADINGS: AASHTO HS20  
 3. THE MANHOLE SHALL BE REINFORCED HORIZONTAL.  
 4. THE MANHOLE SHALL BE REINFORCED HORIZONTAL.  
 5. THE MANHOLE SHALL BE REINFORCED HORIZONTAL.

Proprietary Information: Patent Pending Design. All rights reserved - Royal Environmental Systems, Inc. Royal Environmental Systems not responsible for any field testing or mitigation procedures (if required).

**7 ECOSTORM STRUCTURE - MODEL #1.5** NO SCALE

AS-3 Horseshoe

Flow Direction

Diversion Weir Top el. 862.11

60" Diversion Manhole

el. 861.20, el. 861.12, el. 861.28, el. 861.11

10' 3/4" OD, 24", 18" RCP, 28" 11/16"

**AquaShield** Aqua-Swirl Concentrator Model AS-3 Horseshoe Layout STR #1 (North) The Residence at the COR Ramsey, MN - Project: #UWA10002

Document: AS-3 Off-Line Layout  
 Drawn By: JZW  
 Scale: 1/32"  
 Date: 12/01/10  
 U.S. Patent No. 6,889,762 and other Patent Pending

**8 AQUA SWIRL NORTH - AS-3 HORSESHOE** NO SCALE

AS-3 Horseshoe

Flow Direction

Diversion Weir Top el. 859.66

60" Diversion Manhole

el. 859.74, el. 859.66, el. 859.83, el. 859.66

10' 3/4" OD, 24", 18" RCP, 28" 11/16"

**AquaShield** Aqua-Swirl Concentrator Model AS-3 Horseshoe Layout STR #2 (South) The Residence at the COR Ramsey, MN - Project: #UWA10002

Document: AS-3 Off-Line Layout  
 Drawn By: JZW  
 Scale: 1/32"  
 Date: 12/01/10  
 U.S. Patent No. 6,889,762 and other Patent Pending

**9 AQUA SWIRL SOUTH - AS-3 HORSESHOE** NO SCALE

**SITE UTILITY TRENCHING** NO SCALE

- 2" FOR PIPE 4" OR LESS.
- MACHINE EXCAVATION LIMIT FOR RIGID PIPE.
- HAND SHAPE BOTTOM FOR SUPPORT OF RIGID PIPE.
- MACHINE EXCAVATION LIMIT FOR FLEXIBLE PIPE, GRANULAR FOUNDATION (IF REQUIRED), OR BEDDING REQUIRED FOR LOCAL CONDITIONS. DEPTH VARIES.
- PROVIDE LOCATING/MARKING TAPES MEETING LOCAL REQUIREMENTS
- SEE SPECIFICATIONS FOR BEDDING AND ENCASUREMENT

**PIPE BEDDING** NO SCALE

CLASS C BEDDING THE PIPE IS BEDDED IN COMPACTED GRANULAR MATERIAL OR DENSELY COMPACTED FILL MATERIAL UP TO A HEIGHT EQUAL TO ONE-SIXTH THE OUTSIDE DIAMETER OF THE PIPE. THE DEPTH OF THE BEDDING MATERIAL BELOW THE PIPE IS A MINIMUM OF 3" FOR 27" AND SMALLER PIPE, 6" FOR 66" DIAMETER AND LARGER PIPE, AND 4" FOR INTERMEDIATE SIZES. THE REMAINING SIDEFILL AND BACKFILL MATERIAL IS COMPACTED NATIVE SOLS.

Bc = OUTSIDE DIAMETER  
 H = BACKFILL COVER ABOVE PIPE  
 d = DEPTH OF BEDDING MATERIAL UNDER PIPE

**PIPE BEDDING** NO SCALE

CLASS B BEDDING THE PIPE IS BEDDED IN COMPACTED GRANULAR MATERIAL PLACED UP TO A HEIGHT EQUAL TO ONE-HALF THE OUTSIDE DIAMETER OF THE PIPE. THE DEPTH OF THE GRANULAR BEDDING BELOW THE PIPE IS A MINIMUM OF 3" FOR 27" DIAMETER AND SMALLER PIPE, 6" FOR 66" DIAMETER AND LARGER PIPE, AND 4" FOR INTERMEDIATE SIZES. THE INITIAL FILL MATERIAL SHALL BE DENSELY COMPACTED GRANULAR UP TO A HEIGHT OF 12" OVER THE TOP OF THE PIPE.

**5 PIPE BEDDING** NO SCALE

**AREA DRAIN** NO SCALE

12" PEDESTRIAN H=10 RATED GRATE

12" NYLOPLAST-ADS INLINE DRAIN

90° BEND

**6 AREA DRAIN** NO SCALE

**27" STORM SEWER CATCH BASIN MANHOLE** NO SCALE

27"

MAX. 42"

R-3750-A CASTING UNLESS OTHERWISE NOTED

FULL BED OF MORTAR BETWEEN, AND A 6" COLLAR ON THE OUTSIDE OF RINGS

MINIMUM OF 2, MAXIMUM OF 4 CONCRETE ADJUSTING RINGS

PRECAST CONCRETE MANHOLE

DOORHOUSES SHALL BE GROUTED ON BOTH THE OUTSIDE AND INSIDE.

PREFORMED INVERT

**1 27" STORM SEWER CATCH BASIN MANHOLE** NO SCALE

**STORM SEWER CATCH BASIN MANHOLE** NO SCALE

REFER TO SHEET C-41 FOR CASTING TYPE

INFL-SHIELD (OR EQUAL) 1/4" RING PROTECTION SYSTEM ARE REQUIRED ON ALL MANHOLES

FULL BED OF MORTAR BETWEEN, AND A 6" COLLAR ON THE OUTSIDE OF RINGS

MINIMUM OF 2, MAXIMUM OF 4 CONCRETE ADJUSTING RINGS

PRECAST REINFORCED CONCRETE SLAB 6" FOR 48" DIA. STRUCTURE 8" FOR 54" - 84" DIA. 12" FOR 108" - 120" DIA.

PRECAST CONCRETE MANHOLE SECTIONS

MANHOLE STEPS NENAH CIRCUIT OR EQUAL, 6" O.C. ALUMINUM STEPS APPROVED.

DOORHOUSES SHALL BE GROUTED ON BOTH THE OUTSIDE AND INSIDE.

GROUT INVERT

ALL JOINTS IN MANHOLE TO HAVE 10" RING RUBBER GASKETS.

**2 STORM SEWER CATCH BASIN MANHOLE** NO SCALE

**CLEAN-OUT STRUCTURE** NO SCALE

NENAH CASTING TYPE R-7506-D

4" CONCRETE RING IN LANDSCAPING

6" CONCRETE RING IN PAVEMENT

12" NYLOPLAST-ADS INLINE DRAIN

90° BEND

SEE PLAN FOR PIPE SIZE PVC THREADED CAP & PLUG

SEE PLAN FOR PIPE SIZE PVC RISER

CLEAN-OUT OR CLEAN-OUT MAN LINE

75' MAX. (TYP)

SEE PLAN FOR PIPE SIZE -PVC LONG SWEEP 45° BEND

PVC WYE

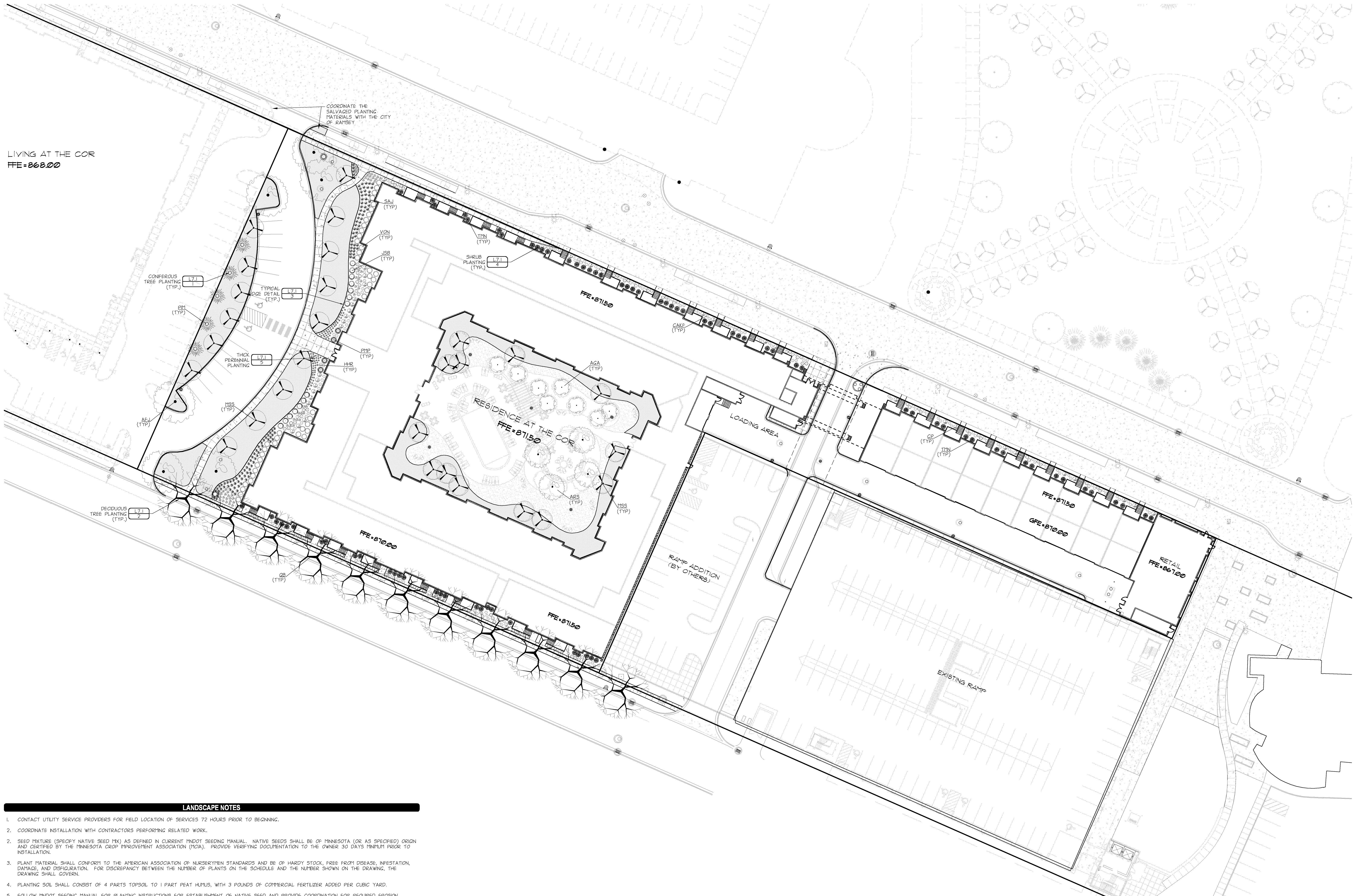
FLOW

TO BE ENCASED IN CONCRETE

NOTES:  
 RISER PIPE SHALL BE EXTENDED ABOVE GROUND LEVEL INITIALLY & THEN IT MAY BE CUT BACK TO MATCH FINAL GRADE (BY OTHERS)  
 POSITION CLEAN-OUTS UPSTREAM OF BENDS, WHEN FEASIBLE.

**3 CLEAN-OUT STRUCTURE** NO SCALE

LIVING AT THE COR  
FFE=868000



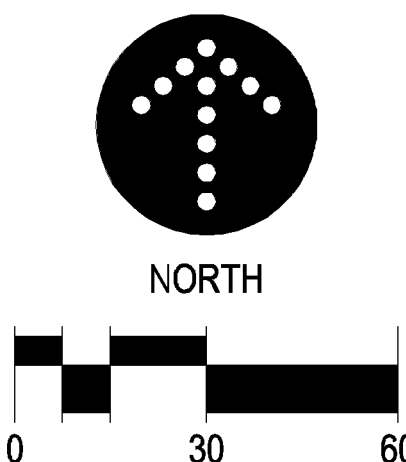
LANDSCAPE NOTES

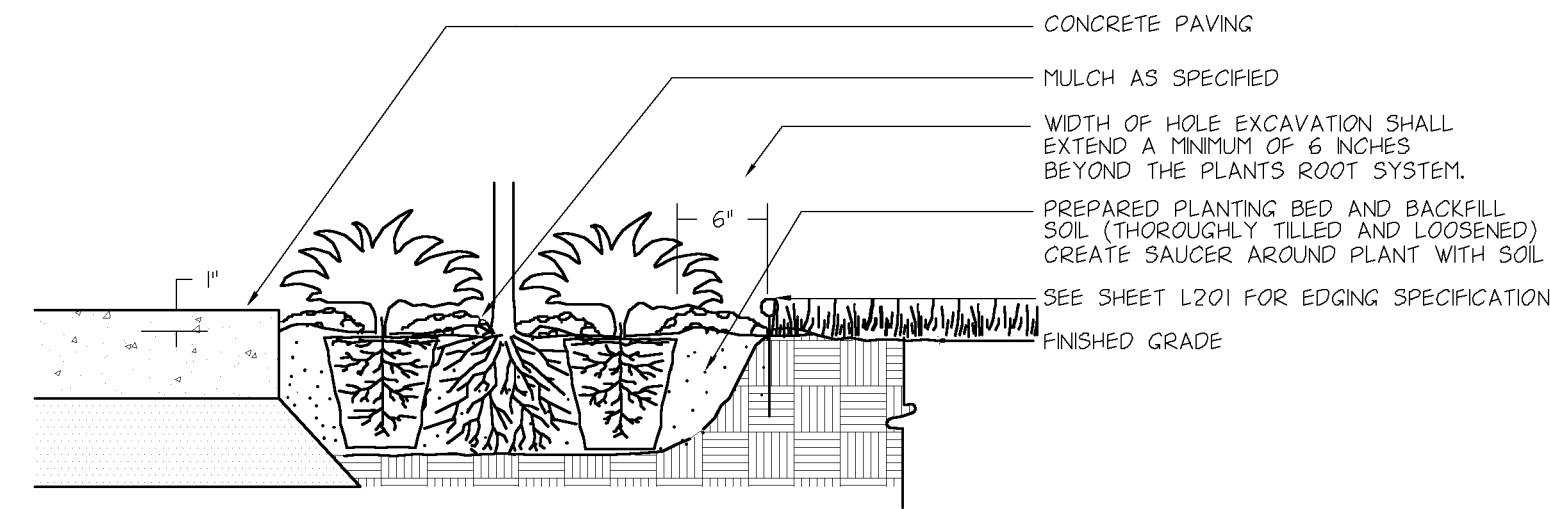
- CONTACT UTILITY SERVICE PROVIDERS FOR FIELD LOCATION OF SERVICES 72 HOURS PRIOR TO BEGINNING.
- COORDINATE INSTALLATION WITH CONTRACTORS PERFORMING RELATED WORK.
- SEED MIXTURE (SPECIFY NATIVE SEED MIX) AS DEFINED IN CURRENT MNDOT SEEDING MANUAL. NATIVE SEEDS SHALL BE OF MINNESOTA (OR AS SPECIFIED) ORIGIN AND CERTIFIED BY THE MINNESOTA CROP IMPROVEMENT ASSOCIATION (MICA). PROVIDE VERIFYING DOCUMENTATION TO THE OWNER 30 DAYS PRIOR TO INSTALLATION.
- PLANT MATERIAL SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS AND BE OF HARDY STOCK, FREE FROM DISEASE, INFESTATION, DAMAGE, AND DEFIGURATION. FOR DISCREPANCY BETWEEN THE NUMBER OF PLANTS ON THE SCHEDULE AND THE NUMBER SHOWN ON THE DRAWING, THE DRAWING SHALL GOVERN.
- PLANTING SOIL SHALL CONSIST OF 4 PARTS TOPSOIL TO 1 PART PEAT HUMUS, WITH 3 POUNDS OF COMMERCIAL FERTILIZER ADDED PER CUBIC YARD.
- FOLLOW MNDOT SEEDING MANUAL FOR PLANTING INSTRUCTIONS FOR ESTABLISHMENT OF NATIVE SEED AND PROVIDE COORDINATION FOR REQUIRED EROSION PREVENTION AND SEDIMENT CONTROL.
- EDGE SHRUB BEDS WITH 6-INCH BLACK VINYL EDGING (BLACK DIAMOND OR APPROVED EQUAL).
- PLACE PLANTS ACCORDING TO LAYOUT WITH PROPER NORMAL SPACING.
- SEE DETAILS FOR DEPTH OF PLANTING SOIL.
- INSTALL 4 INCH DEPTH OF SHREDDED HARDWOOD BARK MULCH IN SHRUB BED AREAS.
- INSTALL 2 TO 3 INCH DEPTH OF SHREDDED HARDWOOD BARK MULCH IN PERENNIAL BED AREAS.
- INSTALL A 4-FOOT DIAMETER SHREDDED HARDWOOD BARK MULCH DISH AROUND TREES NOT PLACED WITHIN A SHRUB OR PERENNIAL PLANTING BED. VINYL EDGING IS NOT REQUIRED, UNLESS NOTED OTHERWISE.
- IRRIGATION SYSTEM MUST HAVE AN APPROVED BACK FLOW DEVICE INSTALLED IN THE IRRIGATION ENCLOSURE. ALL NEW SYSTEMS MUST INSTALL A RAIN SENSOR DEVICE TO STOP IRRIGATION DURING RAIN EVENTS. ALL LANDSCAPE AREAS ARE REQUIRED TO HAVE AN IN-GROUND IRRIGATION SYSTEM TO BE MAINTAINED BY THE PROPERTY OWNER.
- STREET TREES, AS WELL AS TREES PLANTED IN THE INTERIOR OF THE LOT BUT ADJACENT TO THE PUBLIC SIDEWALK, SHOULD HAVE A MINIMUM CLEAR TRUNK HEIGHT (NO BRANCHES) OF SEVEN (7) FEET TO AVOID CONFLICTS WITH PEDESTRIANS.
- A MINIMUM OF SIX (6) INCHES OF TOPSOIL THAT MEETS MNDOT'S PREMIUM TOPSOIL BORROW SPECIFICATION MUST BE INSTALLED OVER ALL DISTURBED AREAS NOT DEVOTED TO BUILDINGS, OFF-STREET PARKING, DRIVEWAYS, SIDEWALKS, PATIOS, OR OTHER SUCH IMPROVEMENTS. IF ATTENDING ON-SITE TOPSOIL, DOCUMENTATION MUST BE SUPPLIED TO THE CITY CERTIFYING THAT THE APPLIED MATERIAL MEETS THIS SPECIFICATION PRIOR TO INSTALLATION.
- UPON ACCEPTANCE OF LANDSCAPING BY CITY, A TWO (2) YEAR MAINTENANCE GUARANTEE IS REQUIRED.

PLANTING SCHEDULE						
COUNT	NAME	KEY	COMMON NAME	SCIENTIFIC NAME	MATURE SIZE	PLANTING SIZE
80	CONIFEROUS SHRUBS	THN	NGRA YEW	TAXUS X MEDIA 'NGRA'	5'H x 5'W	24" HT.
14	CONIFEROUS SHRUBS	JSB	BUFFALO JUNIPER	JUNIPERUS SABINA 'BUFFALO'	12'H x 5'W	24" WIDTH
4	CONIFEROUS SHRUBS	PHF	MUGHO PINE	PINUS MUGHO PUMILIO	5'H x 6'W	24" HT.
5	CONIFEROUS TREES	BLK	BLACK SPRUCE	PICEA MARIANA	70'H x 30'W	6' HT.
38	DECIDUOUS SHRUBS	CP	DWARF RED TIPPED DOGWOOD	CORNUS RUTILA	3'H x 4'W	24" HT.
114	DECIDUOUS SHRUBS	SLEP	LITTLE PRINCESS SPIREA	SPIRAEA JAPONICA 'LITTLE PRINCESS'	3'H x 3'W	24" HT.
44	DECIDUOUS SHRUBS	VON	DWARF EUROPEAN CRANBERRYBUSH	VIBURNUM OPULIS 'NANNY'	5'H x 5'W	24" HT.
11	DECIDUOUS TREES	QB	SWAMP WHITE OAK	QUERCUS BICOLOR	60'H x 50'W	2.5' CAL.
6	DECIDUOUS TREES	AFJ	AUTUMN BLAZE MAPLE	ACER X FREEMANI 'JEFFERSRED'	50'H x 40'W	2.5' CAL.
15	DECIDUOUS TREES	TSS	SPRING SNOW CRABAPPLE	MALUS 'SPRING SNOW'	20'H x 15'W	2.0' CAL.
121	PERENNIALS	SAJ	AUTUMN SEDUM	SEDUM AUTUMN JOY	2'H x 2'W	1 GAL.
58	PERENNIALS	RFC	BLACK EYED SUSAN	RUBICEKIA FLGIDA 'GOLDSTRUT'	30'H x 22'W	1 GAL.
80	PERENNIALS	HRR	HAPPY RETURNS DAYLILY	HEMEROCALLIS 'HAPPY RETURNS'	2'H x 2'W	1 GAL.

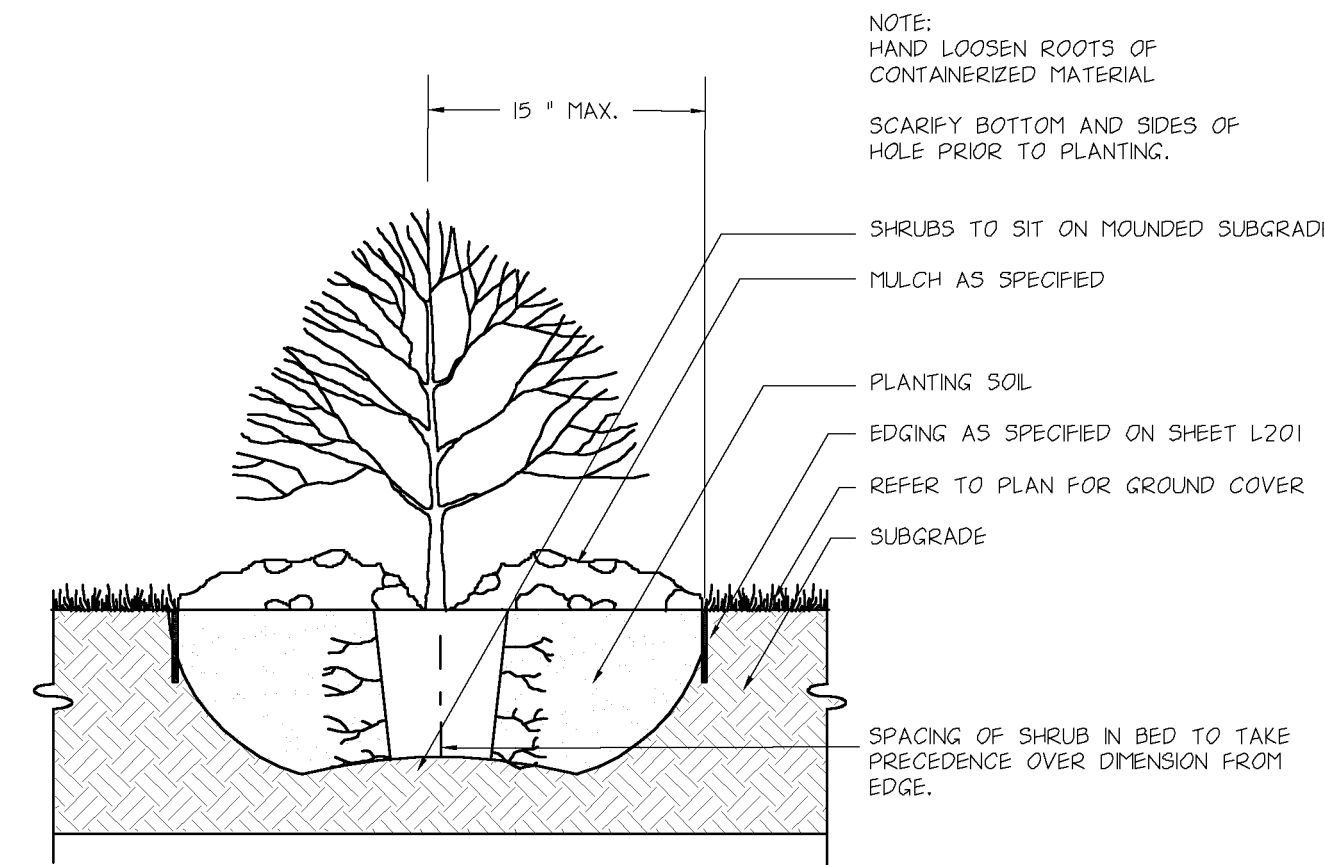
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COURTYARD PLANT SCHEDULE						
COUNT	NAME	KEY	COMMON NAME	SCIENTIFIC NAME	MATURE SIZE	PLANTING SIZE
4	DECIDUOUS TREES	AKS	AUTUMN SPIKE MAPLE	ACER RUBRUM 'SPIKE'	50'H x 25'W	2" CAL.
8	DECIDUOUS TREES	AGA	AUTUMN BRILLIANCE SERVICEBERRY	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	20'H x 15'W	2" CAL.
13	DECIDUOUS TREES	TSS	SPRING SNOW CRABAPPLE	MALUS 'SPRING SNOW'	20'H x 15'W	2" CAL.

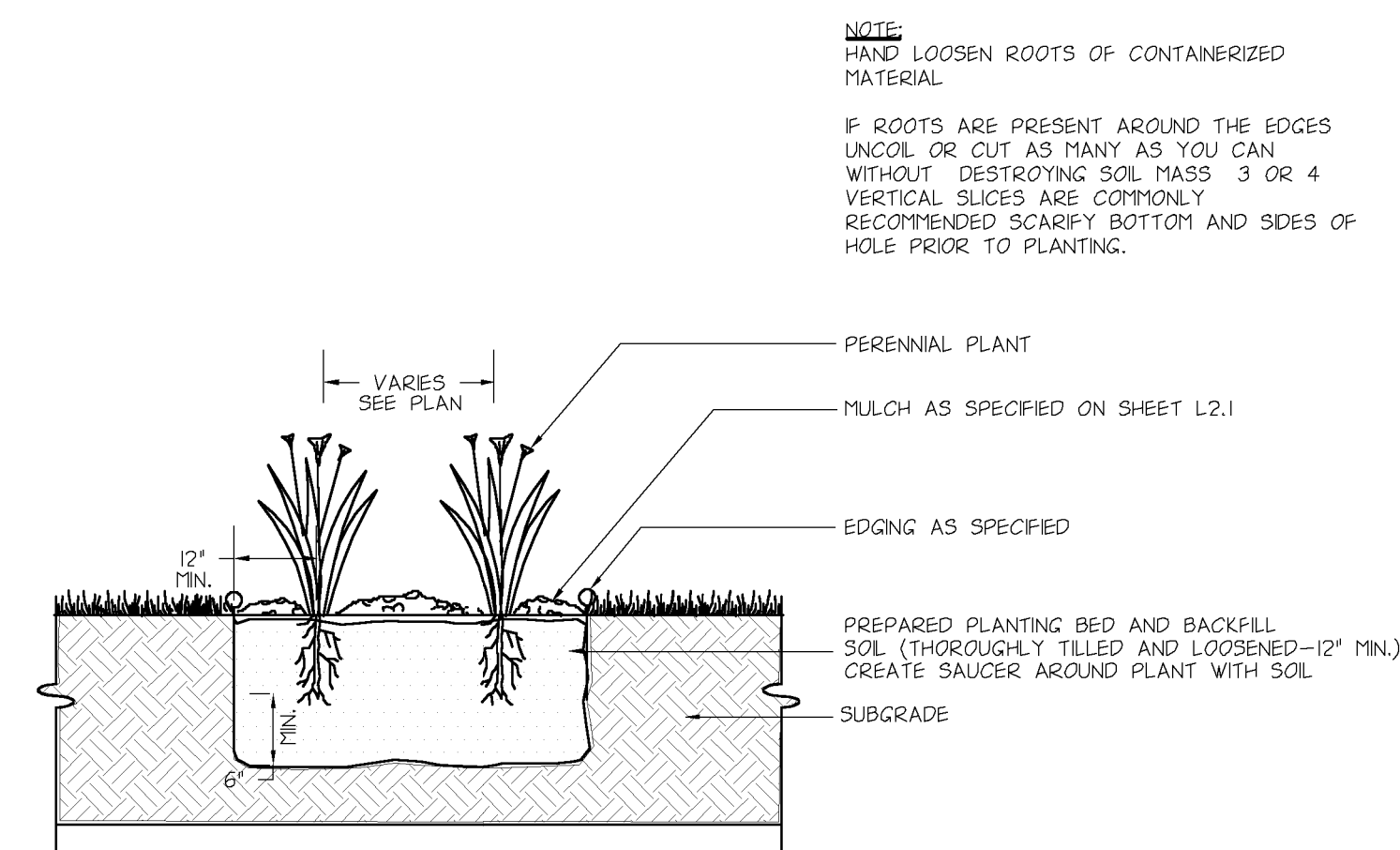




3 TYPICAL EDGE DETAIL AT PLANTING BED



4 TYPICAL SHRUB PLANTING



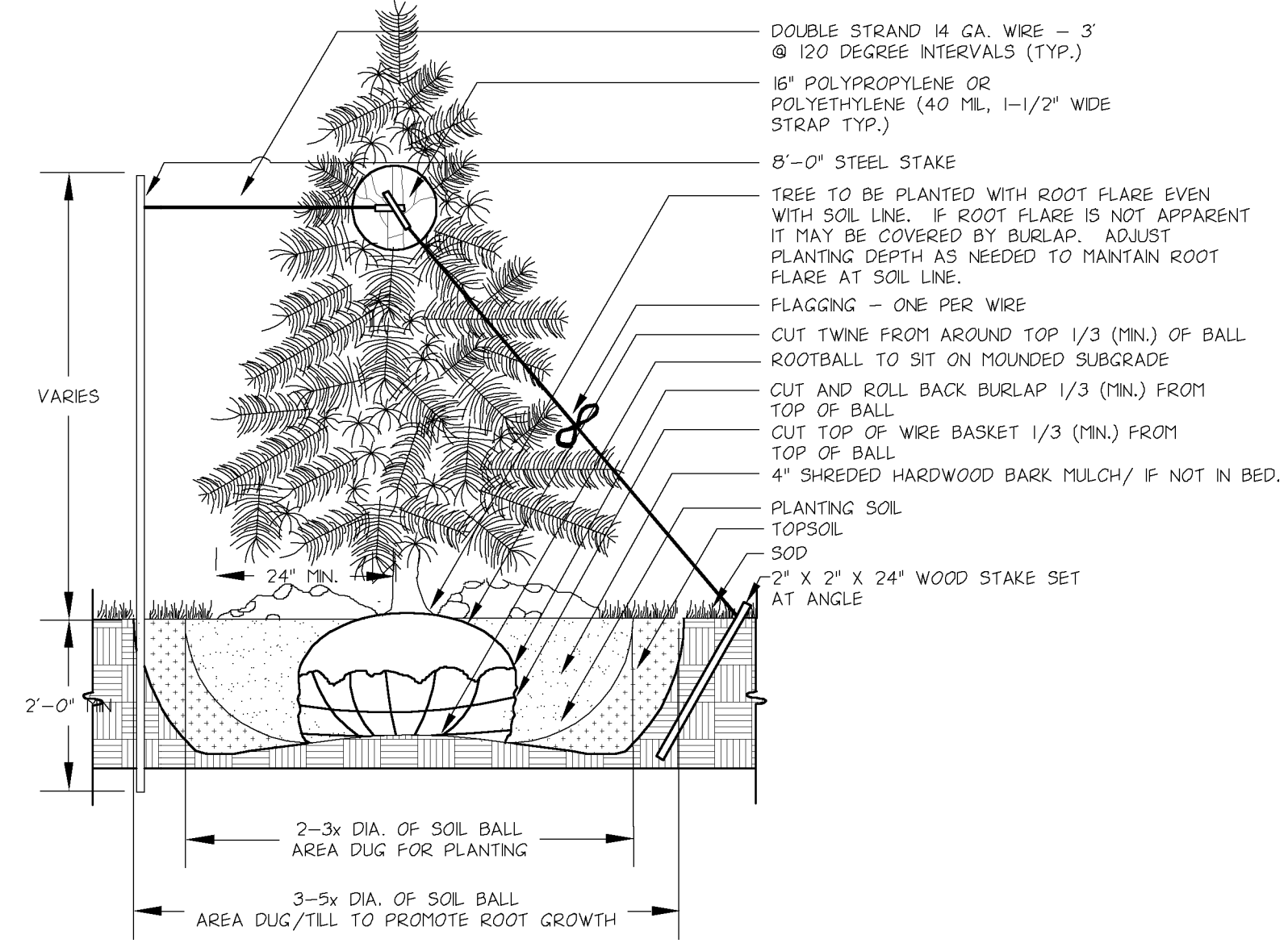
5 TYPICAL PERENNIAL PLANTING

NOTE:  
INSPECT FOR ENCODING ROOTS TO MITIGATE FUTURE STEM GIRDLING. REJECT ANY TREES THAT ARE SEVERELY AFFECTED.

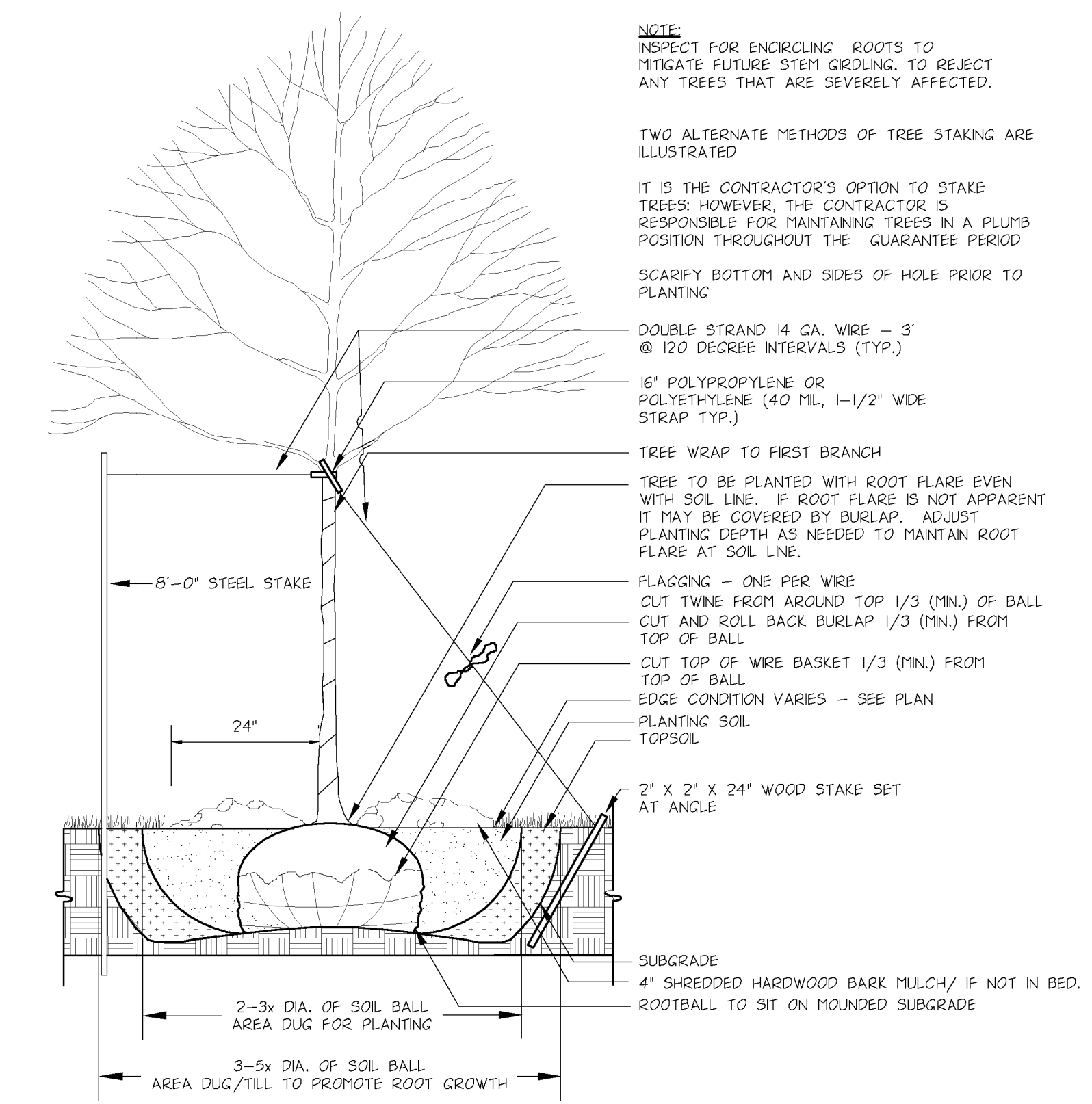
TWO ALTERNATE METHODS OF TREE STAKING ARE ILLUSTRATED.

IT IS THE CONTRACTOR'S OPTION TO STAKE TREES; HOWEVER, THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TREES IN A PLUMB POSITION THROUGHOUT THE GUARANTEE PERIOD.

SCARIFY BOTTOM AND SIDES OF HOLE PRIOR TO PLANTING.



1 TYPICAL CONIFEROUS TREE PLANTING



2 TYPICAL DECIDUOUS TREE PLANTING

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

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REVISIONS	
#	Date Description

DATE 12/03/2010  
PROJECT # 10-0564  
PHASE Final Site Plan Submittal

DRAWN BY SES  
CHECKED BY DWH

LANDSCAPE  
DETAILS

L701

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