BUSINESS OF THE CITY COUNCIL
AGENDA STATEMENT

Item No. _8__
For Meeting of 08.18.2016

REQUEST:	Consideration of approval of the Preliminary Plat and Site Plan of ***Norwalk Orchard View Townhomes***
STAFF CONTACT:	Luke Parris, AICP City Planner
APPLICANT(S):	Norwalk Land Co PO Box 267 Johnston, Iowa 50263
GENERAL DESCRIPTION:	This request would create 74 townhome lots and site plan out the location of buildings and private roadways on Parcel 3 of the Orchard View PUD. The proposal is developed with the requests submitted in a separate PUD amendment.
IMPACT ON NEIGHBORHOOD:	The surrounding ground is currently undeveloped with the exception of nearby two-family homes along Wright Road to the southeast. The surrounding development is all planned as single family residential as a part of various PUDs.
VEHICULAR & PEDESTRIAN TRAFFIC:	The plat/site plan shows two connections onto Orchard Hills Drive at the intersections of Sycamore Drive and Braeburn Drive. The streets internal to the development are private and meet the city's standards for private streets. A four-way controlled intersection with stop signs will likely be required at the Sycamore Drive intersection.
TRAIL PLAN:	The site would have a 5' wide sidewalk installed along Orchard Hills Drive.
ZONING HISTORY FOR SITE AND IMMEDIATE VICINITY:	The site was zoned in the Orchard View Planned Unit Development on October 4, 2012 (Ordinance 12-09). The site is identified as Parcel 3 in the PUD and allows for R-3 uses. The City is currently considering an amendment to the PUD that rewords the ownership requirements for the units on the site.

BUFFERS REQUIRED/ NEEDED:	The proposed development would require a buffer next to any adjacent single-family districts. Single family districts are located on the east, west, and north. The developer has shown a 15' wide buffer easement that is in addition to the required 30' setback.
DRAINAGE:	The development includes a storm sewer system that connects with the City system along Orchard Hills Drive. The western portion of the development drains to the southwest into a detention pond that releases at the south property line.
DEVELOPMENT HISTORY:	The area was planned as a PUD on October 3, 2012. A preliminary plat that included the area as an outlot was approved in January 2014.
FLOODPLAIN:	None of the proposed lots are located within a floodplain.
PARKLAND:	Parkland dedication was identified in the PUD as a park in the northern area of the Orchard View development.
OPEN SPACE AND LANDSCAPING:	The Zoning Ordinance requires 30% open space. The development is 308,104 square feet and would be required to have 92,431 square feet. The site plan shows 155,592 square feet of open space. 61 trees and 89 shrubs are provided to meet the planting requirements. An additional 215 trees and 374 shrubs are provided as part of the required landscaped buffer.
PARKING REQUIREMENTS:	The zoning ordinance requires 2.5 spaces for each dwelling unit. One garage space can be counted towards the requirement, as well as driveway space. The development has 74 units and would be required to have 185 parking spaces. Each unit has an attached garage and room for two cars parked in a driveway. This provides 222 parking spaces. An additional 8 visitor parking spaces have been provided. The developer has indicated that there is space to install additional visitor parking if necessitated in the future.
ARCHITECTURAL STANDARDS:	The City's Architectural Standards require that multi-family townhomes incorporate 3 different materials from the City's list of classified materials. The developer submitted elevations for units that they would like to build though they have not submitted the final elevations for this project. The elevations submitted met the City's Architectural Standards and anything similar would be considered acceptable.
UTILITIES: WATER, SANITARY SEWER, STORM SEWER.	• An 8" public water main is provided throughout the site with an associated easement. • Hydrants are shown throughout the site at appropriate spacing to provide adequate coverage to all units. • An 8" public sanitary sewer is to be constructed along Braeburn Drive and the proper easements have been shown.

- Private storm sewer is provided throughout the site. A portion of the storm sewer connects into existing City storm sewer, the remaining sewer drains into a private detention basin in the southwest of the development.

RELATIONSHIP TO COMPREHENSIVE LAND USE PLAN:

The future land use plan for the area is identified as High Density Residential. This R-3 development meets the intent of the Comprehensive Plan.

STAFF ANALYSIS – ZONING ORDINANCE:

The Preliminary Plat consists of 74 townhome lots. The plat consists of 7.08 acres of land northwest of the proposed intersection of Orchard Hills Drive and Wright Road.

Streets shown will be private and maintained by the owner's association. The Zoning Ordinance requires that these streets be signed with blue signs and labeled as "Private Streets."

The area is currently being considered for a PUD amendment. The amendment would change the owner occupied requirement to read:

- "It is the intent that the parcel will be developed as an owner-occupied community. All units will initially be marketed individually for-sale."

The PUD requires that multi-family structures along the perimeter of the development be no taller than two stories. The proposed development includes two-story units along the perimeter and three-story units on the interior of the site.

STAFF ANALYSIS – SUBDIVISION ORDINANCE:

The Subdivision Ordinance requires that Preliminary Plat submissions details on lot design, street layout, sanitary sewer layout, water main layout, grading, and storm water management. All information has been submitted by the applicant.

PLANNING & ZONING RECOMMENDATION:

The Planning & Zoning Commission recommends that the request for the Preliminary Plat & Site Plan for the Norwalk Orchard View Townhomes be approved with the following conditions:

- That the applicant provides all supporting documentation required within the Norwalk Subdivision Regulations.
- That any significant modifications to the preliminary plat and site plan be reviewed and approved by the Planning & Zoning Commission and City Council.

X Resolution _____ Ordinance ____ Contract _____ Other (Specify) _____

Funding Source: NA

APPROVED FOR SUBMITTAL Luke Nelson
City Manager

RESOLUTION NO. ___

A RESOLUTION APPROVING THE PRELIMINARY PLAT AND SITE PLAN OF NORWALK ORCHARD VIEW TOWNHOMES

WHEREAS, the Planning & Zoning Commission reviewed this request at their regular meeting on August 8, 2016 and recommends approval of the Preliminary Plat and Site Plan; and

WHEREAS, that the applicant provides all supporting documentation required within the Norwalk Subdivision Regulations.; and

WHEREAS, that any significant modifications to the preliminary plat and site plan be reviewed and approved by the Planning & Zoning Commission and City Council; and

NOW, THEREFORE, BE IT RESOLVED: That the City Council does hereby approve the Preliminary Plat and Site Plan of Norwalk Orchard View Townhomes as described and shown in Attachment "A" attached hereto and made a part thereof by reference.

PASSED AND APPROVED this 18th day of August, 2016.

_____
Tom Phillips - Mayor

ATTEST:

_____
JODI EDDLEMAN, CITY CLERK

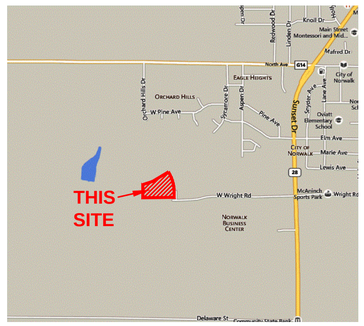
ROLL CALL VOTE:	Aye	Nay
Kuhl	___	___
Lester	___	___
Isley	___	___
Riva	___	___
Livingston	___	___

PRELIMINARY PLAT - SITE PLAN

NORWALK ORCHARD VIEW TOWNHOMES

NORWALK, IA

NORWALK LAND CO. L.L.C., P.O. BOX 267, JOHNSTON, IOWA 50263 ATTN: JOHN LARSON



VICINITY SKETCH

NORTH
NOT TO SCALE

SHEET INDEX

UTILITY CONTACTS:

SANITARY SEWER	- NORWALK PUBLIC WORKS DEPARTMENT (515-981-0228)
WATER MAIN	- NORWALK PUBLIC WORKS DEPARTMENT (515-981-0228)
STORM SEWER	- NORWALK PUBLIC WORKS DEPARTMENT (515-981-0228)
NATURAL GAS UTILITY	- MID AMERICAN ENERGY (515-252-6547)
ELECTRIC	- MID AMERICAN ENERGY (515-252-6547)

AREAS:

BUILDINGS	=	66,697 S.F.	22.1%
IMPERVIOUS	=	85,851 S.F.	28.8%
OPEN SPACE	=	155,532 S.F.	50.5%
TOTAL	=	308,140 S.F.	100.0%

ZONING:

EXISTING: ORCHARD VIEW P.U.D.

P.U.D.:

ORCHARD VIEW P.U.D. - PARCEL 3

SETBACKS:

MINIMUM SETBACK FROM PROPERTY BOUNDARIES - 35'
MINIMUM BUILDING SEPARATION - 15'

FLOOD ZONE:

ZONE 'X'
FEMA FIRM FLOOD INSURANCE RATE MAP NUMBER 19181C0127F, REVISED OCTOBER 16, 2014.
&
ZONE 'X'
FEMA FIRM FLOOD INSURANCE RATE MAP NUMBER 19181C0124F, REVISED OCTOBER 16, 2014.

EASEMENT NOTES:

1. ALL SANITARY SEWER EASEMENTS ARE TO BE 30 FEET WIDE OR TWO TIMES THE DEPTH, WHICHEVER IS GREATER.
2. THE USE OF PUBLIC UTILITY EASEMENTS IS SUBORDINATE TO THE CITY'S USE OF ITS DESIGNATED EASEMENT.
3. SOME LOTS ACCEPT DRAINAGE FROM ADJACENT PROPERTY. BUILDING ON THESE LOTS MUST TAKE INTO ACCOUNT UPSTREAM DRAINAGE.

GENERAL LEGEND

PROPOSED	EXISTING
PLAT BOUNDARY	LOT LINE
SECTION LINE	SANITARY/STORM MANHOLE
LOT LINE	WATER VALVE
CENTERLINE	FIRE HYDRANT
EASEMENT LINE	STORM SEWER SINGLE INTAKE
FLARED END SECTION	STORM SEWER DOUBLE INTAKE
TYPE SW-501 STORM INTAKE	STORM SEWER ROUND INTAKE
TYPE SW-502 STORM INTAKE	FLARED END SECTION
TYPE SW-503 STORM INTAKE	DECIDUOUS TREE
TYPE SW-504 STORM INTAKE	CONIFEROUS TREE
TYPE SW-505 STORM INTAKE	SHRUB
TYPE SW-506 STORM INTAKE	POWER POLE
TYPE SW-511 STORM INTAKE	STREET LIGHT
TYPE SW-512 STORM INTAKE	GUY ANCHOR
TYPE SW-513 STORM INTAKE	ELECTRIC TRANSFORMER
TYPE SW-401 STORM MANHOLE	GAS METER
TYPE SW-402 STORM MANHOLE	TELEPHONE RISER
TYPE SW-403 STORM MANHOLE	SIGN
TYPE SW-403 STORM MANHOLE	CATV — UNDERGROUND TELEVISION
TYPE SW-301 SANITARY MANHOLE	USE — UNDERGROUND ELECTRIC
TYPE SW-302 SANITARY MANHOLE	GAS — UNDERGROUND GAS
TYPE SW-304 SANITARY MANHOLE	USFO — UNDERGROUND FIBER OPTIC
STORM/SANITARY CLEANOUT	UST — UNDERGROUND TELEPHONE
WATER VALVE	OHW — OVERHEAD ELECTRIC
FIRE HYDRANT ASSEMBLY	SAN 8" — SANITARY SEWER WITH SIZE
BLOW-OFF HYDRANT	ST 12" — STORM SEWER WITH SIZE
DETECTABLE WARNING PANEL	W 8" — WATER MAIN WITH SIZE
SANITARY SEWER WITH SIZE	426 — EXISTING CONTOUR
SANITARY SERVICE	TREELINE
STORM SEWER WITH SIZE	B.S.L. — BUILDING SETBACK LINE
STORM SERVICE	P.U.E. — PUBLIC UTILITY EASEMENT
WATER SEWER WITH SIZE	M.O.E. — MINIMUM OPENING ELEVATION
WATER SERVICE	
PROPOSED CONTOUR	
SILT FENCE	
RIP RAP	
ADDRESS	

BENCHMARKS

BRASS PLUG IN HEADWALL OF REINFORCED BOX CULVERT, AT NORTHWEST CORNER OF INTERSECTION OF IOWA HIGHWAY 28 AND ELM AVENUE.
ELEVATION----------814.90

BURY BOLT ON HYDRANT, AT NORTHEAST CORNER OF INTERSECTION OF ASPEN DRIVE AND ELM AVENUE.
ELEVATION----------824.44

CUT 'X' INTERSECTION SYCAMORE DRIVE AND ELM AVENUE.
ELEVATION----------834.71

SANITARY SEWER NOTES:

1. ALL SANITARY SEWER SERVICES SHALL BE SDR 23.5 IN ACCORDANCE WITH SUDAS. ALL SERVICES SHALL BE EXTENDED TO WITHIN 5 FOOT OF THE BUILDING FOUNDATION.
2. THE UTILITY CONTRACTOR SHALL COORDINATE BUILDING SERVICE CONNECTIONS WITH THE BUILDING MECHANICAL CONTRACTOR.
3. ALL 8" SANITARY SEWER SHALL BE PVC TRUSS PIPE WITH CLASS "F-3" BEDDING UNLESS OTHERWISE NOTED ON THE DRAWINGS.
4. ALL MANHOLES WITHIN PAVEMENT SHALL HAVE TYPE 'B' ADJUSTABLE CASTINGS AND INTERNAL CHIMNEY SEALS. ALL MANHOLES NOT WITHIN PAVEMENT SHALL HAVE TYPE 'A' NON-ADJUSTABLE CASTINGS AND EXTERNAL CHIMNEY SEALS.
5. MANHOLE STEPS ARE REQUIRED IN ALL SANITARY SEWER MANHOLES.
6. SEE SUDAS FOR TYPICAL SANITARY SEWER AND MANHOLE DETAILS.
7. CORE DRILL MANHOLE FOR NEW 8" CONNECTION AND POUR WELL-DEFINED INVERT.
8. ALL SEWERS SHALL BE CONSTRUCTED UNDER PLUMBING PERMIT.

STORM SEWER NOTES:

1. ALL STORM SEWER IS PRIVATE UNLESS NOTED OTHERWISE.
2. ALL INTAKES WITHIN PAVED AREAS SHALL HAVE VANE GRATES.
3. 8-INCH STORM SEWER TO BE PVC SDR 35.
4. INTAKE CASTING TYPES SHALL FOLLOW THE SUDAS SW-603 SPECIFICATION. MANHOLE CASTING TYPES SHALL FOLLOW THE SUDAS SW-602 SPECIFICATION.
5. ALL F.E.S.'S SHALL HAVE CONCRETE FOOTINGS PER SUDAS FIGURE 4030.221. THE LAST THREE SECTIONS OF PIPE SHALL BE TIED & APRON GUARDS SHALL BE PROVIDED.

PAVING NOTES:

1. ALL ELEVATIONS ARE PROPOSED FINISHED GRADE AT TOP OF SLAB, UNLESS NOTED OTHERWISE.
2. COMPACT PAVEMENT SUBGRADE TO 95% STANDARD PROCTOR DENSITY FOR A DEPTH OF 1-FOOT. MOISTURE CONTENT SHALL BE -1% TO +4% OF OPTIMUM. SUBGRADE TO BE COMPACTED IN 6-INCH LIFTS.
3. ALL EXPOSED CONCRETE SHALL HAVE 6-7% ENTRAINED AIR, F'c = 4,000 P.S.I. MIN. AND ALL AGGREGATE SHALL MEET ASTM C-33.
4. PAVING SHALL BE 7-INCH NON-REINFORCED P.C.C. W/6-INCH INTEGRAL CURB & GUTTER. DROP CURB WILL BE PROVIDED AT SIDEWALK RAMPS AND ACCESSIBLE LOCATIONS WHERE NOTED. THE DRIVEWAY APPROACH FROM THE EDGE OF THE STREET THROUGH THE BACKSIDE OF THE SIDEWALK SHALL BE MINIMUM 7-INCH THICKNESS.
5. THE DRIVE APPROACH AND ADJACENT SIDEWALK ON ORCHARD HILLS DRIVE SHALL BE LAYED OUT AND INSTALLED PRIOR TO THE EASTERN MOST 20 FEET OF FLAT WORK WITHIN THE SITE.
6. ALL HANDICAP STALLS SHALL BE AFFIXED WITH VERTICAL SIGNAGE WITH THE INTERNATIONAL SYMBOL FOR ACCESSIBILITY (WHITE ON BLUE) AND INDICATING THE FINE FOR IMPROPER USE.
7. SIDEWALK AND DRIVE APPROACH INSTALLATIONS IN PUBLIC R.O.W. TO BE INSPECTED BY THE CITY OF DES MOINES. MINIMUM 24 HOUR NOTICE IS REQUIRED. A PERMIT IS REQUIRED.

WATER NOTES:

1. ALL STATIONING IS BASED ON STREET CENTERLINE MEASUREMENTS.
2. PIPE MATERIALS: DUCTILE IRON IN ACCORDANCE WITH STANDARD SPECIFICATIONS OR AWWA C900 CLASS 150 PVC INSTALL NO. 10 THHN STANDARD COPPER TRACER WIRE UNDER PIPE, BRING TRACER WIRE TO SURFACE AT FIRE HYDRANTS, VALVES, AND NEW DEAD ENDS. CONNECT NEW TRACER TO EXISTING.
3. THE CONTRACTOR SHALL PROTECT AND BACKFILL AROUND UNDERGROUND UTILITIES. BACKFILL SHALL BE IN SIX-INCH LAYERS, COMPACTED TO 95% STANDARD PROCTOR DENSITY.
4. HYDRANTS SHALL BE SET A MAXIMUM OF 3' FROM THE WATER MAIN.
5. HYDRANTS, MANHOLE COVERS, AND VALVE BOXES SHALL BE SET TO CONFORM TO FINISHED PAVEMENT ELEVATIONS.
6. HYDRANTS TO BE WATROUS PACER.
7. WATER MAIN TO HAVE 5 1/2 FEET BURY TYPICAL EXCEPT AT CRITICAL CROSSINGS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING THE AS-BUILT LOCATION OF ALL WATER SERVICES, OBTAINING PERMITS, AND ARRANGING FOR INSPECTIONS
9. ALL SERVICES SHALL BE CONSTRUCTED TO WITHIN 5 FEET OF OUTSIDE OF BUILDING WALL.

GRADING & EROSION CONTROL:

- ALL GRADING & EROSION CONTROL NOTES SHOWN ON GRADING / SWPPP PLANS

QUANTITIES

SANITARY SEWER

PUBLIC- REFER TO PUBLIC IMPROVEMENT DRAWINGS

551 LF.	8-INCH SANITARY SEWER
2 EA.	SW-301 SANITARY MANHOLE
2 EA.	SW-301 SANITARY MANHOLE W/ SW-307 DROP CONNECTION

PRIVATE-

619 LF.	8-INCH SANITARY SEWER
3 EA.	SW-301 SANITARY MANHOLE
16 EA.	6-INCH SANITARY SEWER SERVICE
16 EA.	SANITARY SEWER CLEANOUT

WATER MAIN

PUBLIC- REFER TO PUBLIC IMPROVEMENT DRAWINGS

1,762 LF.	8-INCH WATER MAIN
4 EA.	8"X8"X8" TEE
7 EA.	8-INCH VALVE
3 EA.	8-INCH 11.25° BEND
5 EA.	8-INCH 22.5° BEND
5 EA.	8-INCH 45° BEND
6 EA.	HYDRANT, TEE AND 6-INCH VALVE
5 EA.	6-INCH SERVICES W/MAINFOLD (SEE DETAIL)
11 EA.	4-INCH SERVICES W/MAINFOLD (SEE DETAIL)

STORM SEWER QUANTITIES

PRIVATE-

154 LF.	12-INCH RCP CL III
854 LF.	15-INCH RCP CL III
31 LF.	24-INCH RCP CL III
2 EA.	12-INCH RCP F.E.S.
1 EA.	24-INCH RCP F.E.S.
6 EA.	SW-501 INTAKE W/SW-603 TYPE R CASTING
1 EA.	SW-505 INTAKE W/SW-603 TYPE R CASTING
2 EA.	48" DIA. SW-401 MANHOLE W/SW-602 TYPE E CASTING
3 EA.	18" DIA. SW-512 AREA INTAKE W/SW-604 TYPE 4A GRATE

PAVING

PRIVATE-

5,341 SY.	7-INCH NON-REINFORCED P.C.C. W/2.5" ROLL CURB (6-INCH CURB TO BE USED AT STREET INTAKES AND AT INTERSECTIONS WORCHARD HILLS DRIVE. SEE PLAN)
5,742 SY.	SUBGRADE PREPARATION

PUBLIC- REFER TO PUBLIC IMPROVEMENT DRAWINGS

8 EA.	HANDICAP PEDESTRIAN RAMPS W/TRUNCATED DOMES
665 LF.	5-FOOT WIDE SIDEWALK

PARKING REQUIREMENTS

EACH UNIT IS REQUIRED TO HAVE AT LEAST 1 GARAGE STALL

VISITOR PARKING REQUIRED: 74 UNITS @ 1 SPACE / 10 UNITS = 8 SPACES

PARKING PROVIDED: 8 VISITOR SPACES, 148 SURFACE STALLS + 148 GARAGE STALLS = 304 SPACES PROVIDED

GENERAL NOTES

1. ALL CONSTRUCTION (PUBLIC & PRIVATE) SHALL BE IN ACCORDANCE WITH THE 2015 EDITION OF SUDAS STANDARD SPECIFICATIONS. CONTRACTOR SHALL ARRANGE FOR TESTING AND INSPECTION AND NOTIFY THE FOLLOWING AT LEAST ONE WEEK PRIOR TO BEGINNING CONSTRUCTION:
   a. CITY OF NORWALK PUBLIC WORKS DEPARTMENT.
   b. NORWALK LAND CO., L.L.C.
   c. CIVIL ENGINEERING CONSULTANTS, INC.
   d. IOWA ONE-CALL
2. THE LOCATION OF EXISTING FACILITIES AND APPURTENANCES SHOWN ON THIS PLAN ARE BASED ON AVAILABLE INFORMATION WITHOUT UNCOVERING AND MEASURING TO DETERMINE EXACT FACILITIES LOCATIONS. CIVIL ENGINEERING CONSULTANTS, INC. DOES NOT GUARANTEE THE LOCATION OF EXISTING FACILITIES AS SHOWN, OR THAT ALL EXISTING FACILITIES ARE SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL PUBLIC AND PRIVATE UTILITY PROVIDERS SERVING THIS AREA, AND IOWA ONE CALL, TO DETERMINE THE EXTENT AND PRECISE LOCATION OF EXISTING FACILITIES BEFORE CONSTRUCTION BEGINS.
3. THE CONTRACTOR SHALL PROTECT EXISTING ON-SITE FACILITIES FROM DAMAGE RESULTING FROM THE CONTRACTOR'S WORK. IF DAMAGE, BREAKAGE, INTERRUPTION OF SERVICE, ETC. OF EXISTING FACILITIES DOES OCCUR THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE UTILITY'S OWNER. DAMAGE TO UTILITIES OR STRUCTURES SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE UTILITY OWNER.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY FARM TILE DAMAGE DURING CONSTRUCTION AND RECORDING LOCATION OF TILE.
5. A GEOTECHNICAL REPORT FOR THIS PROJECT CAN BE OBTAINED BY CONTACTING THE OWNER.
6. ANY CHANGES TO THE CONSTRUCTION DRAWINGS DURING CONSTRUCTION SHALL BE APPROVED IN WRITING BY THE CITY OF NORWALK PUBLIC WORKS DEPARTMENT.
7. THE CONTRACTOR IS RESPONSIBLE FOR ANY CHANGES MADE DURING CONSTRUCTION THAT HAVE NOT BEEN APPROVED IN WRITING BY THE CITY OF NORWALK PUBLIC WORKS DEPARTMENT.
8. THE CONTRACTOR SHALL NOTIFY THE CITY OF NORWALK PUBLIC WORKS DEPARTMENT 48-HOURS IN ADVANCE OF ANY WORK BEING PERFORMED ON A HOLIDAY OR WEEKEND.
9. ALL CONSTRUCTION STAKING SHALL BE PERFORMED BY A LICENSED ENGINEER OR LAND SURVEYOR.
10. A CERTIFIED AS-BUILT GRADING PLAN SHALL BE PROVIDED TO THE CITY OF NORWALK PUBLIC WORKS DEPARTMENT PRIOR TO ACCEPTANCE OF PUBLIC IMPROVEMENTS AND APPROVAL OF THE FINAL PLAT.
11. ALL WORK SHALL BE CONDUCTED IN ACCORDANCE WITH OSHA CODES AND STANDARDS. NOTHING INDICATED ON THE PLANS SHALL RELIEVE THE CONTRACTOR FROM COMPLYING WITH ALL APPLICABLE SAFETY REGULATIONS.
12. THE CONTRACTOR SHALL CONDUCT CLEAN-UP, SURFACE RESTORATION, AND SURFACE REPLACEMENT ACTIVITIES AS CONSTRUCTION PROGRESSES. ALL DEBRIS SPILLED ON THE R.O.W. OR ON ADJACENT PROPERTY SHALL BE PICKED UP BY THE CONTRACTOR AT THE END OF EACH DAY.
13. IF DISCREPANCY EXISTS BETWEEN THE DETAILED PLANS AND THE QUANTITIES, THE PLANS SHALL GOVERN.
14. THE CITY OF NORWALK REQUIRES ALL HANDICAP ACCESS RAMPS AND LANDING PADS TO BE CONSTRUCTED AS PART OF THE PUBLIC IMPROVEMENTS. SIDEWALKS AND TRAILS ARE NOT TO BE CONSTRUCTED AS PART OF THESE IMPROVEMENTS.

LEGAL DESCRIPTION

PARCEL 'A' OF OUTLOT 'X', NORWALK ORCHARD VIEW PLAT 3, AN OFFICIAL PARCEL RECORDED IN BOOK 2016, PAGE 6210 AT THE WARREN COUNTY RECORDER'S OFFICE, CITY OF NORWALK, WARREN COUNTY, IOWA AND CONTAINING 7.08 ACRES MORE OR LESS.

CONSTRUCTION SCHEDULE

08/15/16 TO 08/30/16 - CLEARING, ROUGH GRADING, SILT FENCE, SEDIMENT BASINS & TEMPORARY SEEDING
08/30/16 TO 09/15/16 - UTILITY CONSTRUCTION
09/15/16 TO 10/15/16 - PAVING
10/15/16 TO 10/31/16 - FINAL GRADING/SEEDING

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com

CERTIFICATIONS

STATE OF IOWA — MICHAEL D. MORGAN — LANDSCAPE ARCHITECT NO. 363 — PROFESSIONAL LANDSCAPE ARCHITECT

I HEREBY CERTIFY THAT THE PORTION OF THIS TECHNICAL SUBMISSION DESCRIBED BELOW WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF IOWA.

BY:_____ DATE:_____
MICHAEL D. MORGAN, IOWA REG. NO. 363
PAGES OR SHEETS COVERED BY THIS SEAL:
SHEET 5

LAND SURVEYOR — JEFFREY A. GADDIS — 18381 — PROFESSIONAL — IOWA

I HEREBY CERTIFY THAT THIS LAND SURVEYING DOCUMENT WAS PREPARED AND THE RELATED SURVEY WORK WAS PERFORMED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF IOWA.

JEFFREY A. GADDIS, IOWA LICENSE NO. 18381 DATE
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2016
PAGES OR SHEETS COVERED BY THIS SEAL:
1 - 2

LICENSED PROFESSIONAL ENGINEER — MELISSA M. HILLS — 16023 — IOWA

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

MELISSA M. HILLS, IOWA REG. NO. 16023 DATE
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2017
PAGES OR SHEETS COVERED BY THIS SEAL:
1 - 5

Civil Engineering Consultants, Inc.
2400 86th Street, Unit 12 . Des Moines, Iowa 50322
515.276.4884 . Fax: 515.276.7084 . mail@ceclac.com
CEC

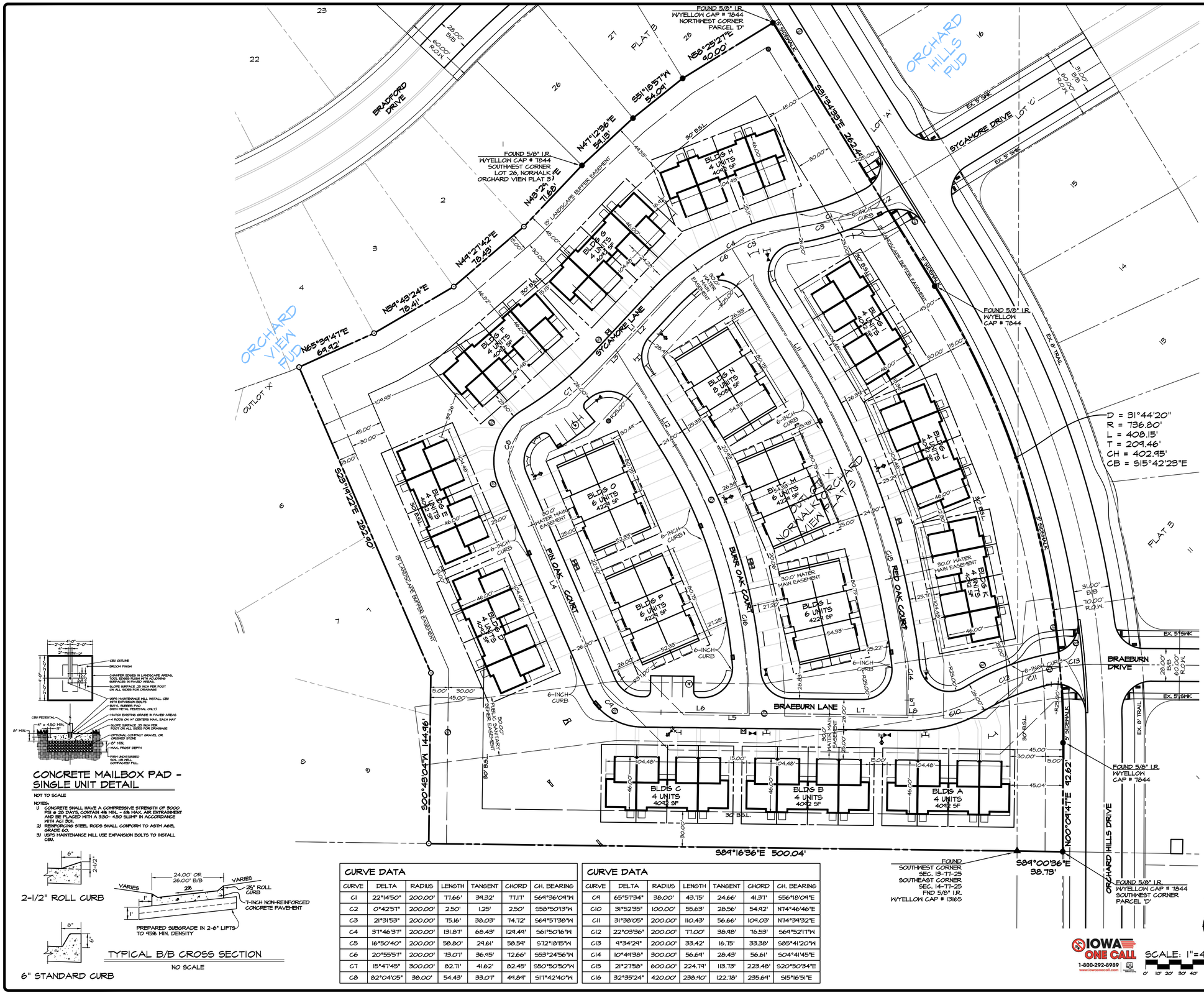
REVISIONS			
	1	04/18/2016	COMMENTS
	2	07/22/2016	
	3	08/02/2016	
	4	.	
	5	.	
	6	.	

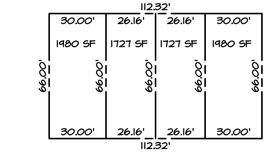
DATE: 03/21/2016
DATE OF SURVEY: 03/15/2016
DESIGNED BY: MMH
DRAWN BY: CM

NORWALK ORCHARD VIEW TOWNHOMES
NORWALK, IA
COVER

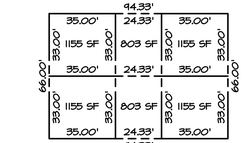
SHEET 1 OF 5

E-7442

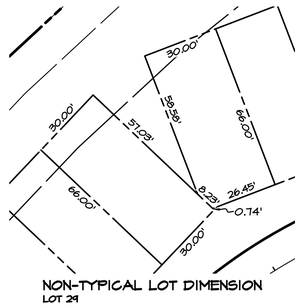




TYPICAL LOT DIMENSIONS
4 UNIT TOWNHOME



TYPICAL LOT DIMENSIONS
6 UNIT CONDOMINIUM



NON-TYPICAL LOT DIMENSION
LOT 29

CONCRETE MAILBOX PAD - SINGLE UNIT DETAIL

NOT TO SCALE

NOTES:
1) CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS, CONTAIN 4% MIN. - 6% MAX. AIR ENTRAINMENT AND BE PLACED WITH A 3.50- 4.50 SLUMP IN ACCORDANCE WITH ACI 301.
2) REINFORCING STEEL RODS SHALL CONFORM TO ASTM A615, GRADE 60.
3) USPS MAINTENANCE HILL USE EXPANSION BOLTS TO INSTALL CBU.

2-1/2" ROLL CURB

TYPICAL B/B CROSS SECTION

NO SCALE

6" STANDARD CURB

CURVE DATA						
CURVE	DELTA	RADIUS	LENGTH	TANGENT	CHORD	CH. BEARING
C1	22°14'50"	200.00'	77.66'	39.32'	77.17'	S64°36'09"W
C2	0°42'51"	200.00'	2.50'	1.25'	2.50'	S58°50'13"W
C3	21°31'53"	200.00'	75.16'	38.03'	74.72'	S64°57'38"W
C4	37°46'37"	200.00'	131.87'	68.43'	129.44'	S61°50'16"W
C5	16°50'40"	200.00'	58.80'	29.61'	58.59'	S72°18'15"W
C6	20°55'57"	200.00'	73.07'	36.95'	72.66'	S53°24'56"W
C7	15°47'45"	300.00'	82.71'	41.62'	82.45'	S50°50'50"W
C8	82°04'05"	38.00'	54.43'	33.07'	49.84'	S17°42'40"W

CURVE DATA						
CURVE	DELTA	RADIUS	LENGTH	TANGENT	CHORD	CH. BEARING
C9	65°57'34"	38.00'	43.75'	24.66'	41.37'	S56°18'09"E
C10	31°52'35"	100.00'	55.63'	28.56'	54.92'	N74°46'46"E
C11	31°38'05"	200.00'	110.43'	56.66'	109.03'	N74°34'32"E
C12	22°03'36"	200.00'	77.00'	38.98'	76.53'	S64°52'17"W
C13	9°34'24"	200.00'	33.42'	16.75'	33.38'	S85°41'20"W
C14	10°44'38"	300.00'	56.24'	28.43'	56.61'	S04°41'45"E
C15	21°27'58"	600.00'	224.74'	113.73'	223.48'	S20°50'34"E
C16	32°35'24"	420.00'	238.90'	122.78'	235.64'	S15°16'51"E

LINE TABLE		
LINE #	DIRECTION	LENGTH
L1	S42°56'58"W	71.91'
L2	S42°56'58"W	58.74'
L3	S42°56'58"W	13.16'
L4	S23°19'22"E	190.62'
L5	S89°16'56"E	230.45'
L6	S89°16'56"E	90.10'
L7	S89°16'56"E	135.07'
L8	S89°16'56"E	5.28'
L9	S00°43'04"W	12.88'
L10	S10°06'35"E	18.73'
L11	S31°34'33"E	117.09'
L12	S31°34'33"E	45.07'

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2400 86th Street, Unit 12 . Des Moines, Iowa 50322
515.276.4884 . Fax: 515.276.7084 . mail@ceclac.com

REVISIONS		COMMENTS
1	04/18/2016	
2	07/22/2016	
3	08/02/2016	
4	.	
5	.	
6	.	

DATE: 03/21/2016
DATE OF SURVEY: 03/15/2016
DESIGNED BY: MMH
DRAWN BY: CM

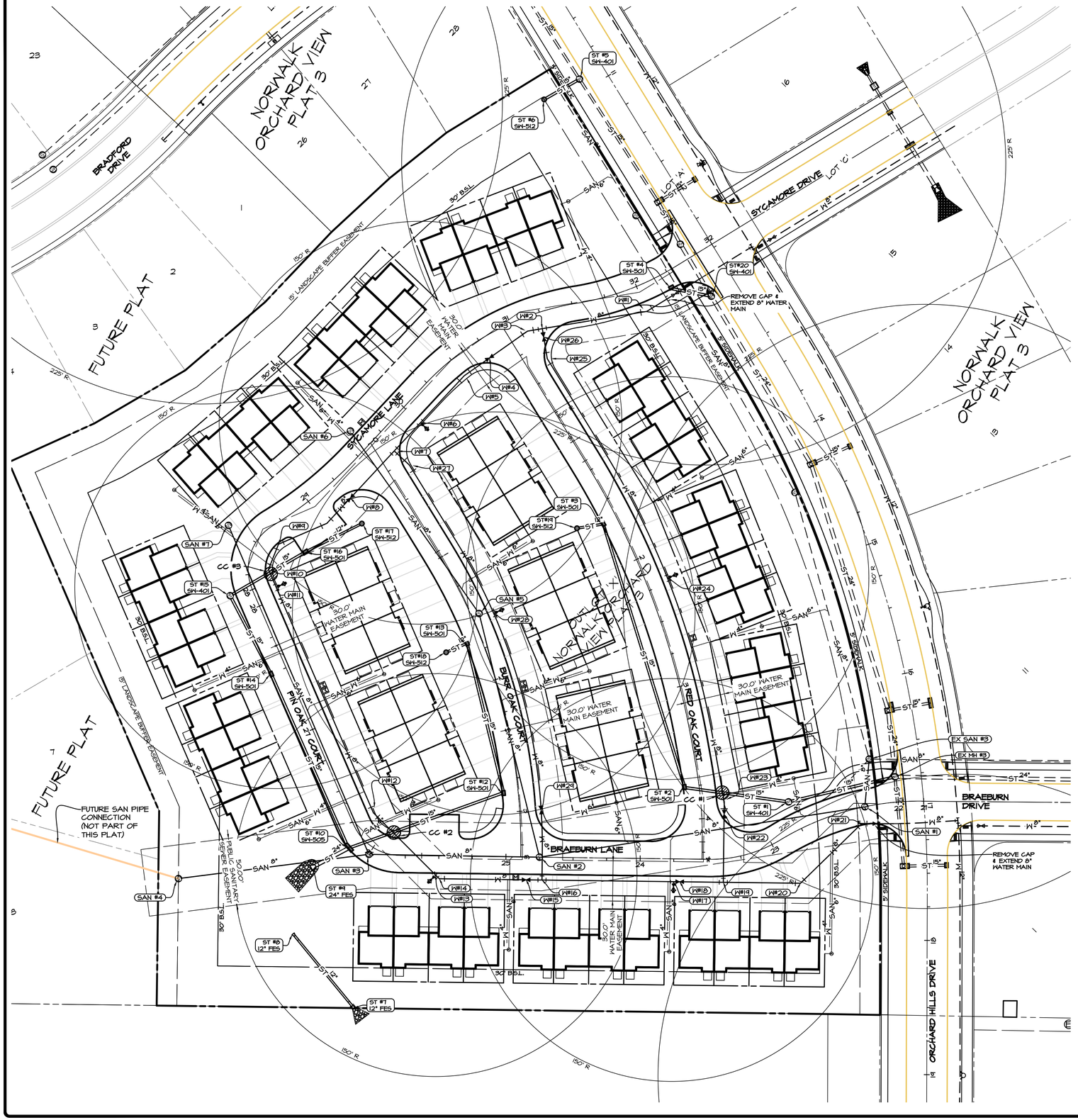
NORWALK ORCHARD VIEW TOWNHOMES

NORWALK, IA

DIMENSION PLAN

SHEET 2 OF 5

E-7442



NOTE:

FG ELEVATIONS IN TABLE REPRESENT FINISH GRADE ELEVATION AT STRUCTURES.

WATER STRUCTURE TABLE		
NAME	LOCATION	DETAILS
W#1 8-INCH 22.5° BEND	STA. 32+00.00, 20.13' RT. ℄	FG ELEV = 943.25
W#2 8"X8"X8" TEE	STA. 31+23.32, 12.30' RT. ℄	FG ELEV = 944.14
W#3 8-INCH 22.5° BEND	STA. 31+11.54, 10.25' RT. ℄	FG ELEV = 944.42
W#4 8-INCH VALVE	STA. 30+75.00, 15.38' RT. ℄	FG ELEV = 945.14
W#5 8-INCH 11.25° BEND	STA. 30+50.00, 15.25' RT. ℄	FG ELEV = 945.85
W#6 HYDRANT, TEE & 6-INCH VALVE	STA. 30+00.00, 17.00' RT. ℄	FG ELEV = 946.42
W#7 8"X8"X8" TEE	STA. 29+71.33, 17.00' RT. ℄	FG ELEV = 946.05
W#8 8-INCH VALVE	STA. 29+25.00, 18.15' RT. ℄	FG ELEV = 945.67
W#9 8-INCH 45 BEND	STA. 28+62.41, 13.76' RT. ℄	FG ELEV = 944.67
W#10 8-INCH 45° BEND	STA. 28+28.81, 15.15' RT. ℄	FG ELEV = 944.47
W#11 HYDRANT, TEE & 6-INCH VALVE	STA. 28+08.00, 17.00' RT. ℄	FG ELEV = 944.25
W#12 8-INCH 22.5° BEND	STA. 26+25.00, 17.00' RT. ℄	FG ELEV = 941.72
W#13 HYDRANT, TEE & 6-INCH VALVE	STA. 25+52.16, 14.32' LT. ℄	FG ELEV = 941.58
W#14 8-INCH 45° BEND	STA. 25+49.41, 17.00' LT. ℄	FG ELEV = 941.66
W#15 8-INCH VALVE	STA. 24+84.74, 17.00' LT. ℄	FG ELEV = 942.28

WATER NOTE:

1. REFER TO PUBLIC IMPROVEMENT DRAWINGS FOR ALL WATER MAIN CONSTRUCTION.

WATER STRUCTURE TABLE		
NAME	LOCATION	DETAILS
W#16 8"X8"X8" TEE	STA. 24+72.43, 17.00' LT. ℄	FG ELEV = 942.37
W#17 HYDRANT, TEE & 6-INCH VALVE	STA. 23+75.00, 17.00' LT. ℄	FG ELEV = 943.38
W#18 8-INCH VALVE	STA. 23+70.33, 17.00' LT. ℄	FG ELEV = 943.52
W#19 8"X8"X8" TEE	STA. 23+34.44, 17.49' LT. ℄	FG ELEV = 943.42
W#20 8-INCH 45° BEND	STA. 22+45.74, 35.44' LT. ℄	FG ELEV = 943.54
W#21 8-INCH 45° BEND	STA. 22+30.10, 11.70' LT. ℄	FG ELEV = 940.44
W#22 8-INCH VALVE	STA. 3+47.50, 16.69' LT. ℄	FG ELEV = 942.61
W#23 8-INCH 11.25° BEND	STA. 3+88.46, 17.42' LT. ℄	FG ELEV = 942.82
W#24 HYDRANT, TEE & 6-INCH VALVE	STA. 2+21.36, 16.00' LT. ℄	FG ELEV = 944.13
W#25 8-INCH 22.5° BEND	STA. 0+37.49, 16.00' LT. ℄	FG ELEV = 945.25
W#26 8-INCH VALVE	STA. 0+22.37, 22.17' LT. ℄	FG ELEV = 944.39
W#27 8-INCH 11.25° BEND	STA. 0+29.19, 16.00' LT. ℄	FG ELEV = 946.25
W#28 HYDRANT, TEE & 6-INCH VALVE	STA. 1+54.15, 16.00' LT. ℄	FG ELEV = 944.76
W#29 8-INCH VALVE	STA. 3+00.00, 16.00' LT. ℄	FG ELEV = 943.02
W#30 8-INCH 22.5 BEND	STA. 29+00.97, 21.36' RT. ℄	FG ELEV = 944.83

SANITARY STRUCTURE TABLE		
NAME	LOCATION	DETAILS
EX SAN #3 48" SW-301 MANHOLE & SW-307 DROP CONNECTION W/SW-601 A CASTING	STA. 16+54.90, 37.00' RT. ℄	RIM = 940.97 IN S = 914.05
SAN #1 48" SW-301 MANHOLE W/SW-601 B CASTING	STA. 22+25.00, 0.00' ℄	RIM = 940.61 IN W = 914.29 OUT N = 914.19
SAN #2 48" SW-301 MANHOLE & SW-307 DROP CONNECTION W/SW-601 B CASTING	STA. 24+75.00, 0.00' ℄	RIM = 942.12 IN W = 915.38 IN N = 915.16 OUT E = 915.27
SAN #3 48" SW-301 MANHOLE & SW-307 DROP CONNECTION W/SW-601 B CASTING	STA. 26+00.00, 6.00' LT. ℄	RIM = 941.08 IN W = 915.98 IN NW = 930.88 OUT E = 915.88
SAN #4 48" SW-301 MANHOLE W/SW-601 A CASTING	STA. 26+37.51, 135.75' LT. ℄	RIM = 934.71 OUT E = 916.56
SAN #5 48" SW-301 MANHOLE W/SW-601 B CASTING	STA. 1+50.00, 6.00' LT. ℄	RIM = 944.43 IN NW = 935.00 OUT S = 934.90
SAN #6 48" SW-301 MANHOLE W/SW-601 B CASTING	STA. 29+60.00, 17.00' LT. ℄	RIM = 946.72 OUT SE = 931.00
SAN #7 48" SW-301 MANHOLE W/SW-601 B CASTING	STA. 28+50.00, 24.00' LT. ℄	RIM = 945.41 OUT SE = 935.67

SANITARY PIPE TABLE			
PIPE	DIA.	LENGTH	SLOPE
EX SAN #3 TO SAN #1	8" PVC	36 L.F.	0.40%
SAN #2 TO SAN #5	8" PVC	187 L.F.	2.00%
SAN #3 TO SAN #7	8" PVC	266 L.F.	1.80%
SAN #1 TO SAN #2	8" PVC	245 L.F.	0.40%
SAN #2 TO SAN #3	8" PVC	127 L.F.	0.40%
SAN #3 TO SAN #4	8" PVC	143 L.F.	0.40%
SAN #5 TO SAN #6	8" PVC	166 L.F.	1.20%

SANITARY NOTE:

1. REFER TO PUBLIC IMPROVEMENT DRAWINGS FOR CONSTRUCTION OF SANITARY #1 - #4 & EX SAN #3.

STORM PIPE TABLE			
PIPE	DIA.	LENGTH	SLOPE
ST #1 TO EX MH #3	15" RCP CLASS III	81 L.F.	4.50%
ST #2 TO ST #1	15" RCP CLASS III	79 L.F.	1.00%
ST #3 TO ST #2	15" RCP CLASS III	205 L.F.	1.00%
ST #4 TO ST#20	15" RCP CLASS III	30 L.F.	2.00%
ST #6 TO ST #5	15" RCP CLASS III	30 L.F.	1.00%
ST #8 TO ST #7	12" RCP CLASS III	71 L.F.	1.40%
ST #10 TO ST #9	24" RCP CLASS III	31 L.F.	1.00%
ST #12 TO ST #10	15" RCP CLASS III	122 L.F.	1.38%
ST #13 TO ST #12	15" RCP CLASS III	115 L.F.	1.00%
ST #14 TO ST #10	15" RCP CLASS III	142 L.F.	1.84%
ST #15 TO ST #14	15" RCP CLASS III	66 L.F.	1.00%
ST #15 TO ST #16	15" RCP CLASS III	65 L.F.	1.00%
ST #17 TO ST #16	12" RCP CLASS III	47 L.F.	1.00%
ST#18 TO ST #13	12" RCP CLASS III	16 L.F.	1.00%
ST#19 TO ST #3	12" RCP CLASS III	20 L.F.	-1.67%

SW-401 MANHOLE TABLE		
NAME	LOCATION	DETAILS
EX MH #3 60" SW-401 MANHOLE W/SW-602 F CASTING	STA. 16+75.86, 19.50' RT. ℄	RIM = 939.98 IN W = 933.22 OUT E = 931.60
ST #1 SW-401 MANHOLE W/SW-602 E CASTING	STA. 22+75.00, 22.00' RT. ℄	RIM = 942.15 IN W = 936.48 OUT S = 936.38
ST #5 SW-401 MANHOLE W/SW-602 E CASTING	STA. 10+90.89, 19.62' RT. ℄	RIM = 944.38 IN SW = 940.44
ST #15 SW-401 MANHOLE W/SW-602 E CASTING	STA. 28+15.00, 17.00' LT. ℄	RIM = 944.14 IN NE = 939.38 OUT SE = 939.28
ST#20 SW-401 MANHOLE W/SW-602 F CASTING	STA. 12+80.00, 20.68' RT. ℄	RIM = 942.37 IN W = 938.13

PAVEMENT INTAKE TABLE		
NAME	LOCATION	DETAILS
ST #2 SW-501 INTAKE W/SW-603 R GRATE	STA. 3+75.00, 12.00' RT. ℄	GRATE = 942.54 IN N = 937.88 OUT E = 937.78
ST #3 SW-501 INTAKE W/SW-603 R GRATE	STA. 1+65.00, 12.00' RT. ℄	GRATE = 944.44 IN W = 934.73 OUT S = 934.93
ST #10 SW-505 INTAKE W/SW-603 R GRATES	STA. 26+11.75, 13.00' LT. ℄	GRATE = 941.43 IN E = 935.41 IN NW = 935.41 OUT SW = 935.31
ST #14 SW-501 INTAKE W/SW-603 R GRATE	STA. 27+50.00, 13.00' LT. ℄	GRATE = 943.11 IN NW = 938.62 OUT SE = 938.52

SW-512 INTAKE TABLE		
NAME	LOCATION	DETAILS
ST #6 18" SW-512 INTAKE W/SW-604 4A GRATE	STA. 10+89.98, 30.00' RT. ℄	GRATE = 943.80 OUT NE = 941.24
ST #16 24" x 36" SW-501	STA. 28+17.84, 30.50' RT. ℄	GRATE = 944.11 IN NE = 940.23 OUT SW = 940.03

STORM F.E.S. TABLE		
NAME	LOCATION	
ST #7 12" FES	STA. 25+87.11, 117.50' LT. ℄	IE = 933.00
ST #8 12" FES	STA. 26+04.80, 87.29' LT. ℄	IE = 934.00
ST #9 24" FES	STA. 26+14.75, 43.54' LT. ℄	IE = 935.00

STORM NOTE:

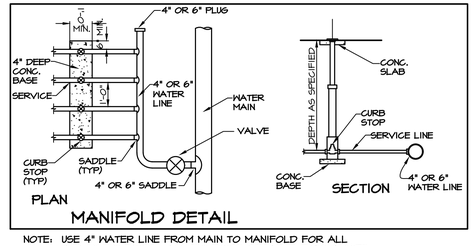
1. EX MH #3 & EX. MH #10 MAY NEED TO HAVE RIMS ADJUSTED TO MATCH THE RIM ELEVATIONS SHOWN IN THE TABLE. VERIFY THE ASBUILT ELEVATIONS PRIOR TO CONSTRUCTION.
2. ST #5 AND ST#20 ARE TO BE CONSTRUCTED OVER THE EXISTING STORM SEWER. VERIFY THE EXISTING IE'S AND POUR CONCRETE COLLARS & WELL DEFINED INVERTS. BASE SHALL BE POURED IN PLACE.

CRITICAL CROSSINGS

CC#1
IE 15" RCP = 936.12
F.G. = 942.80
TOP 8-INCH WATER = 936.62

CC#2
IE 15" RCP = 937.00
F.G. = 941.75
TOP 8-INCH WATER = 935.35

CC#3
IE 15" RCP = 940.37
F.G. = 944.46
TOP 8-INCH WATER = 938.62



MANIFOLD DETAIL

NOTE: USE 4" WATER LINE FROM MAIN TO MANIFOLD FOR ALL 4-PLEX BUILDINGS. ALL BUILDINGS GREATER THAN 4 UNITS SHALL HAVE A 6" WATER LINE FROM MAIN TO MANIFOLD.

IOWA ONE CALL
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NORTH

SCALE: 1"=40'
0' 10' 20' 30' 40' 80'

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2400 86th Street, Unit 12 . Des Moines, Iowa 50322
515.276.4884 . Fax: 515.276.7084 . mail@ceclac.com
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REVISIONS						
	COMMENTS					
1	04/18/2016					
2	07/22/2016					
3	08/02/2016					
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5	.	.	.	.	.	.
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DATE: 03/21/2016
DATE OF SURVEY: 03/15/2016
DESIGNED BY: MMH
DRAWN BY: CM

NORWALK ORCHARD VIEW TOWNHOMES
NORWALK, IA

UTILITY PLAN

SHEET 3 OF 5

E-7442

GRADING AND EROSION CONTROL NOTES

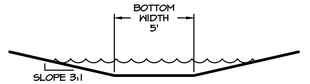
1. ALL DIMENSIONS ARE TO BACK OF CURB, OUTSIDE OF BUILDING WALL, AND TO PROPERTY LINES.
2. ALL SPOT ELEVATIONS ARE AT GUTTER, UNLESS NOTED OTHERWISE.
3. STRIP TOPSOIL FROM ALL AREAS WHICH ARE TO RECEIVE STRUCTURAL FILL.
4. AREAS TO RECEIVE FILL TO BE BENCHED.
5. PREPARE BOTTOM OF BENCH FOR FILL BY DISCING TO A DEPTH OF 6-INCHES AND COMPACT. ANY LOCALIZED AREAS WHICH CANNOT BE SATISFACTORILY COMPACTED OR WHICH SHOW EVIDENCE OF PUMPING ACTION SHALL BE UNDERCUT AND RECOMPACTED WITH ON-SITE FILL.
6. ALL SITE GRADING FILL SHALL BE COMPACTED TO A DENSITY THAT IS NOT LESS THAN 95% STANDARD PROCTOR.
7. ALL AREAS WHICH ARE TO RECEIVE PAVING SHALL HAVE THE TOP 12-INCHES DISCED AND RECOMPACTED TO 95% STANDARD PROCTOR DENSITY.
8. THE MOISTURE CONTENT OF THE FILL MATERIAL SHALL MATCH URBAN STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS, BETWEEN 0 AND 4% OVER OPTIMUM MOISTURE.
9. UNLESS GRADING FOR A DESIGNED SUMP OR LOW POINT AREA, GRADE ALL SITE AREAS TO DRAIN WITHOUT TRAPPING OR PONDING SURFACE WATER WHEN SITE GRADING IS COMPLETE.
10. FINAL GRADES WITHIN PAVED AREAS SHALL BE WITHIN 0.1' OF PLAN GRADE, ALL OTHER AREAS TO BE WITHIN 0.2' OF PLAN GRADE.
11. TOPSOIL SHALL BE RESPREAD TO A MINIMUM THICKNESS OF 4-INCHES ON ALL DISTURBED UNPAVED AREAS.
12. BACKFILL TO TOP OF ALL CURBS.
13. GRADING & TREE PROTECTION LIMITS SHALL BE STAKED PRIOR TO ANY TREE REMOVAL.
14. CIVIL ENGINEERING CONSULTANTS, INC. IS NOT A GEOTECHNICAL ENGINEER.
15. A GEOTECHNICAL REPORT FOR THIS PROJECT CAN BE OBTAINED BY CONTACTING THE ENGINEER AND ASKING FOR GEOTECHNICAL EXPLORATION REPORT. THE CONTRACTOR SHALL REFER TO AND FOLLOW THE RECOMMENDATIONS OF ALLENDER-BUTZKES GEOTECHNICAL REPORT FN 131244 DATED OCTOBER 31, 2013.
16. STREET PAVEMENT SUBGRADE SHALL BE COMPACTED PER THE GUIDLINES IN THE GEOTECHNICAL EXPLORATION REPORT REFERENCED IN NOTE 15.
17. EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AND INSPECTED IN ACCORDANCE WITH SUDAS SECTION 9040. BY A CERTIFIED PROFESSIONAL IN EROSION & SEDIMENT CONTROL (CPESC). A CPESC IS A RECOGNIZED SPECIALIST IN SOIL EROSION AND SEDIMENT CONTROL. THE SOIL AND WATER CONSERVATION SOCIETY AND THE INTERNATIONAL EROSION CONTROL ASSOCIATION, IN COOPERATION WITH THE AMERICAN SOCIETY OF AGRONOMY, SPONSOR THE CERTIFICATION PROGRAM. CIVIL ENGINEERING CONSULTANTS, INC. IS NOT A CERTIFIED PROFESSIONAL IN EROSION & SEDIMENT CONTROL.
18. ALL SLOPES SHALL BE 3:1 OR FLATTER FOR THE SITE.
19. A REGIONAL STORM WATER DETENTION & SEDIMENT BASIN IS LOCATED IN ORCHARD TRAIL PLAT 4. REFER TO THE SWPPP PLAN FOR THAT PLAT & NPDES PERMIT NO. 25444-25101. THE REGIONAL BASIN IS LOCATED IN OUTLOT 'Z', ORCHARD VIEW PLAT 4 AND PROVIDES DETENTION FOR THE EAST 3.0 ACRES OF THIS SITE.

MULCHING TABLE

1. DRY STRAW OR HAY, 2 TONS PER ACRE. ANCHOR STRAW WITH MULCH TILLER OR ASPHALT TACT @ 1200 PER ACRE.
2. WOOD CHIPS OR BARK, 10-12 TONS PER ACRE.

QUANTITIES

143,251 SF	SEEDING (TYPE II EROSION CONTROL MIX)
1,940 LF	SILT FENCE
12 EA	INLET FILTERS
7 TN	DRY STRAW OR HAY MULCH (2 TN / ACRE)
33 TN	CLASS E RIP RAP

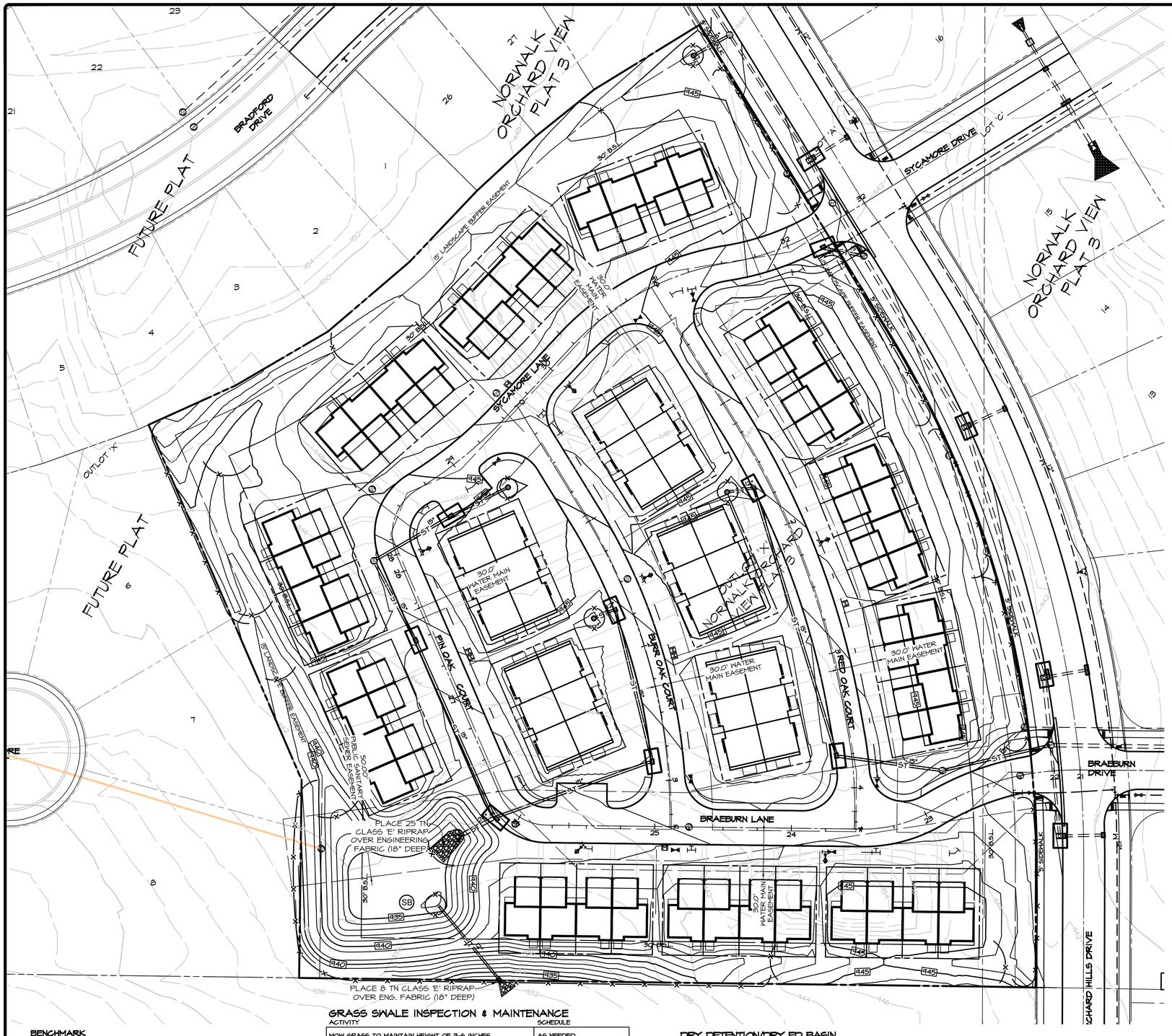


GRASS SWALE DETAIL

NO SCALE

SEEDING NOTES

1. FERTILIZER (16-16-16) SHALL BE APPLIED TO THE AREA TO BE SEEDED AT A RATE OF 650 LBS/ACRE.
2. THE AREA TO BE SEEDED SHALL BE SMOOTH, AND ALL WASHED AND GULLIES FILLED TO MEET THE DESIRED CROSS SECTION. AREAS ACCESSIBLE TO MACHINERY SHALL BE CULTIVATED TO A DEPTH OF 3". AREAS INACCESSIBLE TO MACHINE SHALL BE CULTIVATED TO A DEPTH OF 1 1/2 INCHES.
3. THE FERTILIZER SHALL BE INCORPORATED INTO THE SOIL TO A DEPTH OF 3" WITH A MECHANICAL ROCK PICKER OR A SPRING TOOTH CULTIVATOR.
4. ON ALL AREAS ACCESSIBLE TO MACHINERY, A DROP-TYPE SEEDER ATTACHED TO A LANDSCAPE ROLLER SHALL BE USED TO SOW THE GRASS SEED. ON AREAS INACCESSIBLE TO MACHINERY A CYCLONE SEEDER WILL BE PERMITTED. NO OTHER HAND SEEDING METHOD IS ACCEPTABLE.
5. ALL SEEDED AREAS SHALL BE MULCHED IMMEDIATELY AFTER SEEDING BY APPLYING 2 TONS OF DRY MULCH PER ACRE.
6. THE MULCH MAY CONSIST OF STRAW (OAT, WHEAT, BARLEY OR RYE). HAY, BROMEGRASS, TIMOTHY, ORCHARD GRASS, ALFALFA OR CLOVER SHALL NOT BE USED. ALL MATERIAL MUST BE FREE FROM ALL NOXIOUS WEEDS.
7. ALL SEEDED AREAS SHALL BE WATERED ARTIFICIALLY A MINIMUM OF TWICE A DAY FOR THE FIRST WEEK AFTER INSTALLATION, AND ONCE A DAY DURING THE SECOND AND THIRD WEEK AFTER INSTALLATION.



BENCHMARK

BRASS PLUG IN HEADWALL OF REINFORCED BOX CULVERT AT NORTHWEST CORNER OF INTERSECTION OF IOWA HIGHWAY 28 AND ELM AVENUE.
ELEVATION----------874.90

BURY BOLT ON HYDRANT, AT NORTHEAST CORNER OF INTERSECTION OF ASPEN DRIVE AND ELM AVENUE.
ELEVATION----------924.49

CUT 'X' INTERSECTION SYCAMORE DRIVE AND ELM AVENUE.
ELEVATION----------934.71

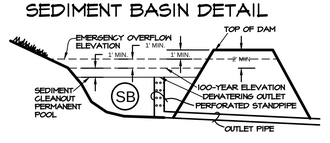
GRASS SWALE INSPECTION & MAINTENANCE

ACTIVITY	SCHEDULE
MOW GRASS TO MAINTAIN HEIGHT OF 3-6 INCHES	AS NEEDED (FREQUENTLY/SEASONALLY)
REMOVE SEDIMENT BUILDUP IN THE BOTTOM OF THE GRASS SWALE ONCE IT HAS ACCUMULATED TO 25% OF ORIGINAL DESIGN VOLUME.	AS NEEDED (INFREQUENTLY)
INSPECT GRASS ALONG SIDE SLOPES FOR EROSION AND FORMATION OF RILLS OR GULLIES AND CORRECT.	ANNUALLY (SEMI ANNUALLY THE FIRST YEAR)
REMOVE TRASH AND DEBRIS ACCUMULATED IN THE CHANNEL.	
BASED ON INSPECTION, PLANT AN ALTERNATIVE GRASS SPECIES IF THE ORIGINAL GRASS COVER HAS NOT BEEN SUCCESSFULLY ESTABLISHED.	

DRY DETENTION/DRY ED BASIN INSPECTION & MAINTENANCE

ACTIVITY	SCHEDULE
• REMOVE DEBRIS FROM BASIN SURFACE TO MINIMIZE OUTLET CLOGGING AND IMPROVE AESTHETICS. • INSPECT INSTALLED LOW-FLOW ORIFICES IN ED BASINS FOR CLOGGING	ANNUALLY AND FOLLOWING SIGNIFICANT STORM EVENTS
• REMOVE SEDIMENT BUILDUP • REPAIR AND RE-VEGITATE ERODED AREAS • PERFORM STRUCTURAL REPAIRS TO INLET AND OUTLETS	AS NEEDED BASED ON INSPECTION
• MOW TO LIMIT UNWANTED VEGITATION	ROUTINE

SEDIMENT BASIN DETAIL



SB 12" Ø PERFORATED STAND PIPE
OVERFLOW = 944.00, WET STORAGE ELEV = 936.28
TOP OF STAND PIPE = 937.50, INVERT OUT = 934.00
2 HORZ ROWS @ 4.0" O.C. OF 4 - 2" Ø EVENLY SPACED
STARTING @ ELEV = 936.28

LEGEND

EXISTING/PROPOSED

- PLAT BOUNDARY
- SANITARY SEWER & SIZE
- STORM SEWER & SIZE
- WATER MAIN & SIZE
- MANHOLE
- STORM INTAKE
- FIRE HYDRANT
- VALVE
- EXISTING FENCE
- SILT FENCE
- INLET FILTER
- EXISTING / PROPOSED STREET TREES
- EXISTING / PROPOSED TREELINE
- PROPOSED TREE PROTECTION FENCING

IOWA ONE CALL
1-800-292-8989
www.iowaonecall.com

NORTH

SCALE: 1"=40'
0' 10' 20' 30' 40' 80'

CEC
Civil Engineering Consultants, Inc.
2400 86th Street, Unit 12 . Des Moines, Iowa 50322
515.276.4884 . Fax: 515.276.7084 . mail@ceclac.com

REVISIONS		COMMENTS
1	04/19/2016	
2	07/22/2016	
3	08/02/2016	
4	.	.
5	.	.
6	.	.

DATE:	03/21/2016
DATE OF SURVEY:	03/15/2016
DESIGNED BY:	MHH
DRAWN BY:	CM

NORWALK ORCHARD VIEW TOWNHOMES

NORWALK, IA

GRADING PLAN

SHEET 4 OF 5

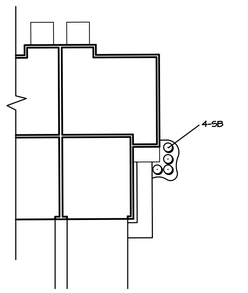
E-7442

PLANTING SCHEDULE

AR	21	Acer rubrum Red Maple	2" Cal.	B&B	See Plan
QB	9	Quercus bicolor Swamp White Oak	2" Cal.	B&B	See Plan
GT	21	Gleditsia triacanthos 'skyline' Skyline Honeylocust	2" Cal.	B&B	See Plan
UA	9	Ulmas americana American Elm	3" Cal.	B&B	See Plan
PT	7	Populus tremuloides Quaking Aspen	3" Cal.	Cont.	See Plan
CC	14	Crataegus crusgalli 'cockspur' Thornless Hawthorn	1 1/2" Cal.	Cont.	See Plan
ER	6	Cercis canadensis Eastern Redbud	1 1/2" Cal.	Cont.	Multi-trunk
MP	21	Malus species Prairiefire Crabapple	1 1/2" Cal.	Cont.	See Plan
PS	6	Pinus strobus White Pine	6'-8' Ht.	T5/B&B	See Plan
PG	20	Picea glauca densata Blackhills Spruce	6'-8' Ht.	T5/B&B	See Plan
AC	17	Abies concolor White Fir	6'-8' Ht.	T5/B&B	See Plan
JC	58	Juniperus chinensis Sea Green Juniper	#3	Cont.	See Plan
CD	85	Caryopteris divaricata 'Snow Fairy' Variegated Blue Mist Spirea	#2	Cont.	See Plan
WF	72	Weigela florida 'Verweig' My Monet Weigela	#2	Cont.	See Plan
VT	74	Viburnum trilobum American Cranberry Bush Viburnum	3" Cal.	Cont.	See Plan
DS	46	Diervilla sessilifolia Cool Splash Honeysuckle	#2	Cont.	See Plan
CA	86	Calamagrostis x acutiflora Karl Foerster Grass	#2	Cont.	See Plan
BW	14	Asclepias tuberosa Butterfly Weed	#2	Cont.	See Plan
SB	20	Spiraea x bumalda 'Anthony Waterer' Anthony Waterer Spirea	#2	Cont.	See Plan
PC	11	Prunus cerasifera Purple Leaf Plum	2" Cal.	Cont.	See Plan

PLANTING NOTES

1. ALL SITEWORK, SODDING AND LANDSCAPING SHALL BE IN ACCORDANCE WITH WEST DES MOINES STANDARD SPECIFICATIONS UNLESS SPECIFIED OTHERWISE. http://library.municode.com/index.aspx?clientId=16407
2. ALL PLANT MATERIAL SHALL AT LEAST MEET MINIMUM REQUIREMENTS SHOWN IN THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1-1986).
3. CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR A PERIOD OF ONE YEAR FROM DATE OF COMPLETION AND ACCEPTANCE BY OWNERS REPRESENTATIVE AFTER INSTALLATION.
4. NO PLANT MATERIAL SHALL BE SUBSTITUTED WITHOUT AUTHORIZATION OF LANDSCAPE ARCHITECT AND THE CITY.
5. 2" TO 3" CALIPER DECIDUOUS TREES SHALL BE STAKED (2 STAKES) AND WRAPPED IMMEDIATELY AFTER PLANTING. ALL CONIFERS SHALL BE STAKED (2 STAKES).
6. ALL TREES, SHRUBS, BEDS & GROUND COVERS SHALL BE MULCHED WITH AT LEAST 3" SHREDDED BARK MULCH.
7. PLANT QUANTITIES ARE FOR CONTRACTORS CONVENIENCE, DRAWING SHALL PREVAIL WHERE CONFLICT OCCURS.
8. ONE WEEK PRIOR TO INSTALLATION. THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT AT CIVIL ENGINEERING CONSULTANTS, INC. (TELEPHONE 515-276-4884).
9. THE CONTRACTOR SHALL STAKE LOCATION OF PLANTS FOR LANDSCAPE ARCHITECT'S APPROVAL BEFORE DIGGING HOLES.
10. ALL DECIDUOUS TREES SHALL BE PLANTED AT LEAST 5' FROM R.O.W. AND CONIFEROUS TREES AT LEAST 10' FROM R.O.W.
11. ALL DISTURBED AREAS SHALL BE SEEDED OR SODDED AS SHOWN ON DRAWING.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF IDENTIFICATION TAGS, CONTAINERS, AND BURLAP CORDS ON ALL PLANT MATERIAL PRIOR TO COMPLETION OF THE CONTRACT.
13. ALL METERS AND MECHANICAL TO BE SCREENED BY PLANTINGS OR SCREEN WALL.
14. NO OVERSTORY TREES ARE ALLOWED WITHIN PUBLIC SANITARY AND STORM SEWER EASEMENTS.
15. SEEDING
    A. SOW SEED WITH DRILL-TYPE SEEDING MACHINE. EVENLY DISTRIBUTE SEED BY SOWING EQUAL QUANTITIES IN TWO DIRECTIONS AT RIGHT ANGLES TO EACH OTHER.
        1. DO NOT USE WET SEED OR SEED THAT IS MOLDY OR OTHERWISE DAMAGED.
        2. DO NOT SEED AGAINST EXISTING TREES. LIMIT EXTENT OF SEED TO OUTSIDE EDGE OF PLANTING SAUCER.
    B. SOW SEED AT A TOTAL RATE OF 6 lb/1000 sf.
    C. RAKE SEED LIGHTLY INTO TOP 1/8 INCH OF SOIL, ROLL LIGHTLY, AND WATER WITH FINE SPRAY.
    D. PROTECT SEEDED AREAS WITH SLOPES EXCEEDING 1:4 WITH EROSION-CONTROL BLANKETS AND 1:6 WITH EROSION-CONTROL FIBER MESH INSTALLED AND STAPLED ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.
    E. PROTECT SEEDED AREAS WITH SLOPES NOT EXCEEDING 1:6 BY SPREADING STRAW MULCH. SPREAD UNIFORMLY AT A MINIMUM RATE OF 2 TONS/ACRE TO FORM A CONTINUOUS BLANKET 1-1/2 INCHES IN LOOSE DEPTH OVER SEEDED AREAS. SPREAD BY HAND, BLOWER, OR OTHER SUITABLE EQUIPMENT.
        1. ANCHOR STRAW MULCH BY CRIMPING INTO SOIL WITH SUITABLE MECHANICAL EQUIPMENT.
    F. PROTECT SEEDED AREAS FROM HOT DR, DRY WEATHER OR DRYING WINDS BY APPLYING COMPOST MULCH UNIFORMLY TO A DEPTH OF 3/16 INCH, AND ROLL SURFACE SMOOTH.
16. SODDING
    A. LAY SOD WITHIN 24 HOURS OF HARVESTING. DO NOT LAY SOD IF DORMANT OR IF GROUND IS FROZEN OR MUDDY.
    B. LAY SOD TO FORM A SOLID MASS WITH TIGHTLY FITTED JOINTS. BUTT ENDS AND SIDES OF SOD; DO NOT STRETCH OR OVERLAP. STAGGER SOD STRIPS OR PADS TO OFFSET JOINTS IN ADJACENT COURSES. AVOID DAMAGE TO SUBGRADE OR SOD DURING INSTALLATION. TAMP AND ROLL LIGHTLY TO ENSURE CONTACT WITH SUBGRADE. ELIMINATE AIR POCKETS. AND FORM A SMOOTH SURFACE. WORK SIFTED SOIL OR FINE SAND INTO MINOR CRACKS BETWEEN PIECES OF SOD; REMOVE EXCESS TO AVOID SMOTHERING SOD AND ADJACENT GRASS.
        1. LAY SOD ACROSS ANGLE OF SLOPES EXCEEDING 1:3.
        2. ANCHOR SOD ON SLOPES EXCEEDING 1:6 WITH WOOD PEGS OR STEEL STAPLES SPACED AS RECOMMENDED BY SOD MANUFACTURER BUT NOT LESS THAN 2 ANCHORS PER SOD STRIP TO PREVENT SLIPPAGE.
    C. SATURATE SOD WITH FINE WATER SPRAY WITHIN TWO HOURS OF PLANTING. DURING FIRST WEEK AFTER PLANTING, WATER DAILY OR MORE FREQUENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A MINIMUM DEPTH OF 1-1/2 INCHES BELOW SOD.
17. ISLANDS TO BE SODDED WITH MULCH RINGS AT TREE LOCATIONS PER DETAIL.
18. THE 30 FOOT BUFFER PARK LANDSCAPING ALONG E. P. TRUE PARKWAY WILL BE INSTALLED BY THE DEVELOPER AS A PART OF THE JORDAN WEST OVERLAY DISTRICT SITE PLAN.



TYPICAL PLANTING DETAIL
(SINGLE SIDDED TOWNHOMES)

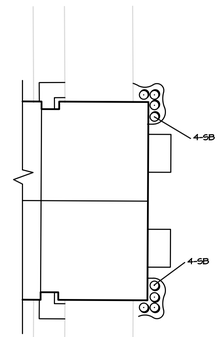
LANDSCAPE REQUIREMENTS

OPEN SPACE
REQUIRED: 2 TREE & 3 SHRUBS/3,000 SF
308,147 X 30% = 92,444 SF
92,444 SF/1,500 = 61
61 TREES
92,444 SF/1,500 = 61
61 SHRUBS

PROPOSED:
61 TREES
89 SHRUBS

15' BUFFER
REQUIRED: 2.8 OVERSTORY, 7 EVERGREEN TREES, 2.8 UNDERSTORY & 22 SHRUBS/100 LF
1662 LF / 100 = 17
48 OVERSTORY
119 EVERGREEN TREES
48 UNDERSTORY
374 SHRUBS

PROVIDED:
48 OVERSTORY
119 EVERGREEN TREES
48 UNDERSTORY
374 SHRUBS



TYPICAL PLANTING DETAIL
(DOUBLE SIDDED TOWNHOMES)

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DATE: 03/21/2016
DATE OF SURVEY: 03/15/2016
DESIGNED BY: MHH
DRAWN BY: CM

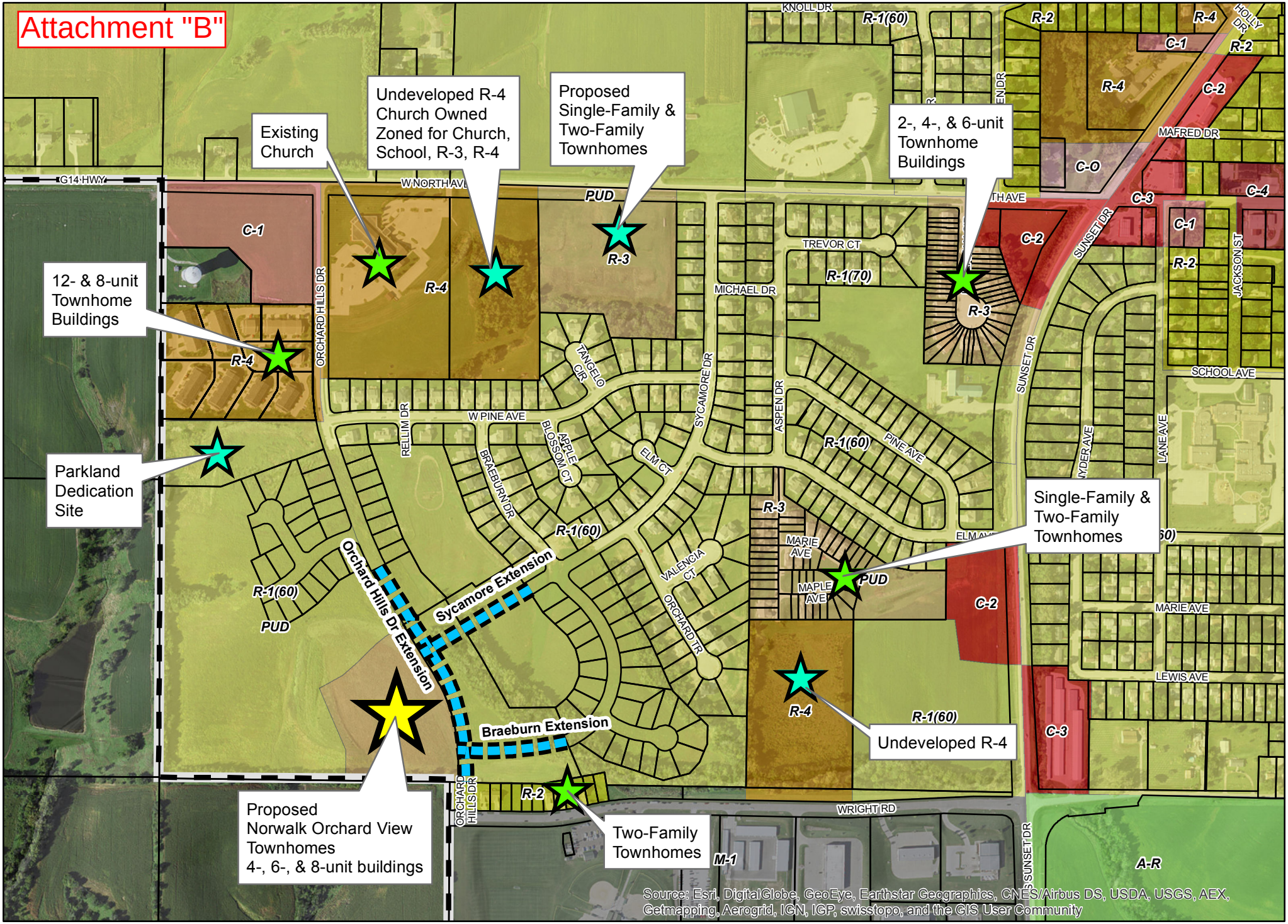
NORWALK ORCHARD VIEW TOWNHOMES

NORWALK, IA

LANDSCAPE PLAN

SHEET 5 OF 5

E-7442



norwalk
NOTICEABLY NORWALK

Norwalk Orchard View Townhomes Location

N

0 0.1 0.2 Miles

Print Date: 04/27/2016