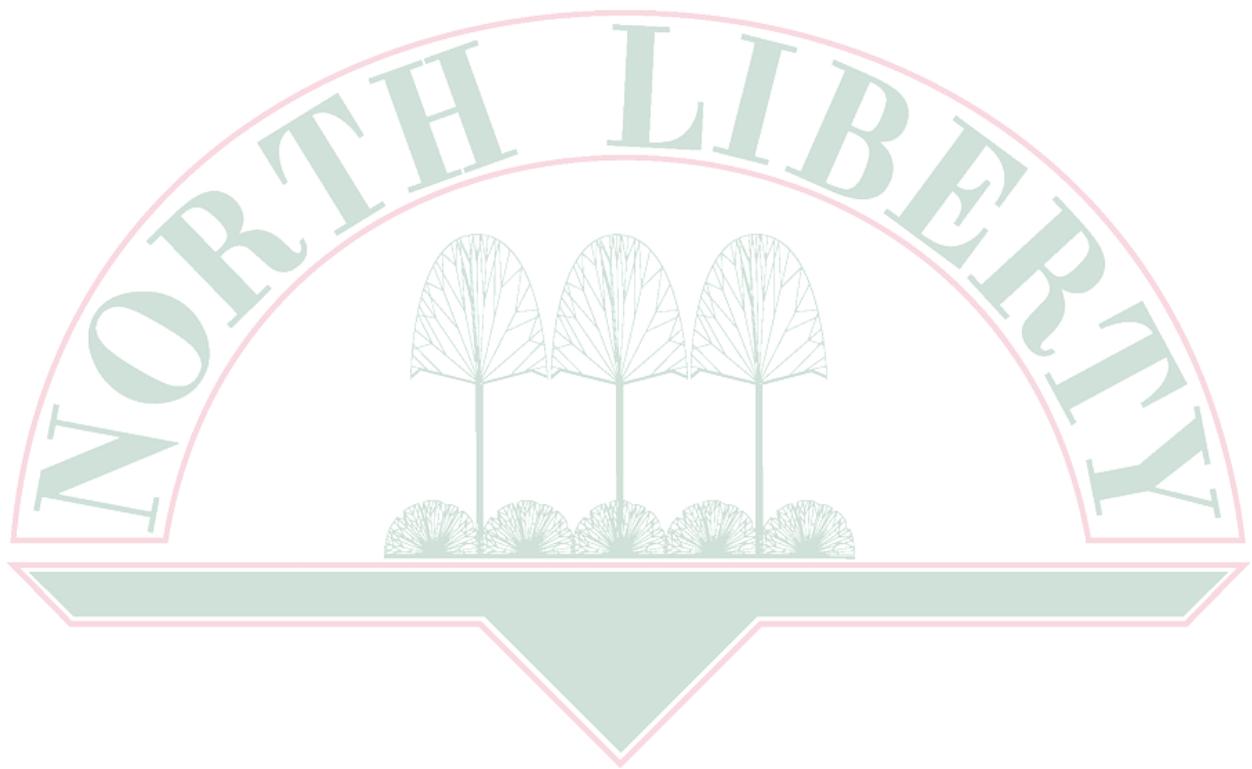


The Preserve Site Plan



Recommended for approval by
Planning Commission at their
regular meeting April 2.



March 25, 2019

Memo

To: North Liberty Planning Commission
From: Dean Wheatley, Planning Director
Subject: Site Plan Approval Request
(Lot 1, The Preserve)

Your North Liberty city staff has reviewed the subject submission, and offer comments presented in this memo. The staff review team includes the following personnel:

Ryan Heiar, City Administrator
Tracey Mulcahey, Assistant City Administrator
Tom Palmer, City Building Official
Kevin Trom, City Engineer
Dean Wheatley, Planning Director

This request from Watts Group Development, Inc. to approve a site plan for multi-family property is located at the southeast corner of Kansas Avenue and St. Andrews Drive. The zoning is RM-8, multi-family, and this site is part of a larger overall property that extends east and south and includes duplex, single-family, and additional multi-family zoning. At the time of the rezoning, it was estimated that about 155 multi-family units could be constructed on the two large multi-family lots, and this site plan is consistent with that estimate. The lot is approximately 560' north-south by 1,035' east-west.

This plan proposes 89 units on 12.86 acres, a density of 6,294 square feet of land per unit, while the minimum number of square feet per unit allowed in the RM-8 district is 5,000. Density calculations allow the area of the pond and the



Example of similar development on internal streets.

storm water management easement around it to be included in the overall lot size, but even if they are subtracted, the density on the remainder of the site is approximately 5,040 square feet per unit, above the RM-8 minimum. Other Watts Group developments in North Liberty, such as Melrose Terrace and Madison Terrace, may seem to have a more open and inviting suburban plan, but this plan is different

from those because it features townhomes arranged side-by-side with two-stall garages rather than stacked condominiums, and the number and density of two-stall driveways creates challenges in laying the site out.

There are **three building styles** proposed, all two-story townhomes with two-stall garages. All of the buildings proposed are nicely designed and feature significant masonry and detailing that Watts Development is known for. Locations and numbers for each:

Building Plan A (St. Andrews): 27 of the 89 units are shown to be this model, all along St. Andrews Drive.

Building Plan B (Bedford): 33 of the 89 units are shown to be this model; all of the internal units and the four-plex backing up to the duplex lots farthest east.

Building Plan C (Mackinaw): 29 of the 89 units are shown to be this model, located east of the pond and along Denison Avenue.

The **landscape plan** is very complete and shows attention to detail. The pond area is proposed to include a sheltered picnic table area, and fountains are planned for the pond itself.

This plan was originally submitted for the March Planning Commission meeting agenda, but the developer has been working well with staff to make some important changes over the last month. Some of those changes include:

- The number of units decreased by three to provide a little more openness on the site.
- Drives that originally were not planned to have sidewalks now have them, as well as a green space between those sidewalks and the curbs.
- The potential for snow storage has been enhanced.
- The landscape plan has been substantially enhanced.
- More design attention has been paid on the rear and exposed side elevations of the buildings, including revised rooflines, added windows, added masonry, and other features.

In sum, we feel that the partnership developed over the past month on this project has produced an excellent product that will be a significant asset to North Liberty at this high visibility location, and rec

Note: Easements shown on the plan will need to be recorded either separately or with the final plat.



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ENVIRONMENTAL SPECIALISTS
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(319) 351-6282
www.mmsconsultants.net

Date Revision
02-21-19 PER CITY COMMENTS -KLE
03-08-19 PER CITY COMMENTS -MAK
03-15-19 PER CITY COMMENTS -MAK
03-27-19 PER CITY ENGINEER REVISIONS -KAK

OVERALL SITE LAYOUT PLAN

THE PRESERVE LOT 1
NORTH LIBERTY
JOHNSON COUNTY
IOWA

MMS CONSULTANTS, INC.
Date: 02-01-2019
Designed by: RLA Field Book No:
Drawn by: KLE Scale: 1"=40'
Checked by: RLA Sheet No:
Project No: NORTH LIBERTY
1331-615 of 12

LEGAL DESCRIPTION
LOT 1 OF THE PRESERVE, NORTH LIBERTY, IOWA,
IN ACCORDANCE WITH THE PLAT THEREOF,
CONTAINING 12.86 ACRES, AND SUBJECT TO
EASEMENTS AND RESTRICTIONS OF RECORD.

PROPOSAL
APPLICANT PLANS TO DEVELOP A 12.86 RM-8 DISTRICT CONSISTING OF
2 THREE-FLEX, 7 FOUR-FLEX AND 11 FIVE-FLEX, A TOTAL OF 89
UNITS.

DEVELOPMENT SCHEDULE
APPLICANT PLANS TO BEGIN CONSTRUCTION IN FALL 2019, LASTING THRU
FALL 2022.

*SEE ARCHITECTURAL PLANS FOR COVENANTS

DEVELOPMENT CHARACTERISTICS- LOT 1
CURRENT ZONING: RM-8 (RESIDENTIAL MULTI-FAMILY)

SETBACK REQUIREMENTS
BUILDING SETBACKS: REQUIRED 45 FEET
FRONT YARD 20 FEET
SIDE YARD 35 FEET
REAR YARD 35 FEET
PARKING SETBACKS: REQUIRED 25 FEET
FRONT YARD 3 FEET
SIDE YARD 3 FEET
REAR YARD 3 FEET

MINIMUM LOT REQUIREMENTS
MINIMUM LOT SIZE 21,780 SF
LOT FRONTAGE 75 FEET
LOT WIDTH 100 FEET
MAXIMUM BUILDING HEIGHT 40 FEET
MAXIMUM FLOOR AREA RATIO 0.60 FAR

BUILDING CHARACTERISTICS
(1) 3-FLEX(A) BUILDING (3,112 EACH) 3,112 SF
(2) 3-FLEX(B) BUILDING (4,134 EACH) 24,804 SF
(6) 4-FLEX(B) BUILDINGS (4,134 EACH) 24,804 SF
(6) 5-FLEX(C) BUILDINGS (6,253 EACH) 37,518 SF
(1) 5-FLEX(D) BUILDING (3,751 EACH) 3,751 SF
(5) 5-FLEX(E) BUILDINGS (6,508 EACH) 32,540 SF
(1) 4-FLEX(F) BUILDING (5,218 EACH) 5,218 SF

LOT CHARACTERISTICS
LOT AREA 560,182 SF (100%)
BUILDING AREA 101,943 SF (18.0%)
PAVING AREA - DRIVE/PARKING 101,392 SF (18.0%)
PAVING AREA - SIDEWALK 23,345 SF (4.1%)
GREEN SPACE AREA 328,502 SF (58.9%)

PARKING REQUIREMENTS
2.2 / DWELLING UNIT (89 DU) 196 SPACES REQUIRED
SPACES PROVIDED:
GARAGE PARKING 178 SPACES
DRIVEWAY 89 SPACES
OFF STREET PARKING 30 SPACES
TOTAL PROVIDED 297 SPACES

ALL GROUND MOUNTED MECHANICAL UNITS, TELEPHONE PEDESTALS
AND LIGHT FIXTURES SHALL BE SCREENED WITH LANDSCAPING
LIGHTING
- FREE STANDING LIGHT POLES NOT TO EXCEED 25 FEET.
- PARKING LIGHTS TO BE NON-ADJUSTABLE
DOWNLIGHTS
- WALL MOUNTED LIGHTS NOT TO BE FORWARD THROWING.
MAXIMUM WATTAGE = 250 WATTS.
- LIGHT SPREAD SHALL NOT IMPACT BEYOND PROPERTY LIMITS.

GENERAL NOTES
1. ALL PRIVATE DRIVES ARE DESIGNED TO SUPPORT A GROSS AXLE WIDTH OF 75,000 POUNDS.
2. 'NO PARKING' SIGNS SHALL BE INSTALLED ALONG ALL PRIVATE DRIVES.
3. THE HEIGHT OF ROOF EAVES WILL NOT EXCEED 30 FEET.

UTILITY COMPANY CONTACTS

SERVICE	SUPPLIER	PHONE NO.
TELEPHONE & CABLE TV	SOUTH SLOPE COOPERATIVE ATTN: CHARLES SCHULTE	319-227-7111
NATURAL GAS	MIDAMERICAN ENERGY ATTN: DONALD WASTON	319-341-4461
ELECTRICITY	LINN COUNTY REC ATTN: JOHNA NUNEMAKER	319-377-1587
TELEPHONE & CABLE TV	WINDSTREAM ATTN: JOEL SCHROEDER	1-800-289-1903
TELEPHONE & CABLE TV	MEDIACOM ATTN: DARWIN DRISCOLL	319-351-0408
WATER	CITY OF NORTH LIBERTY ATTN: DAN LANGE	319-626-5719
SEWER	CITY OF NORTH LIBERTY ATTN: DAN LANGE	319-626-5719

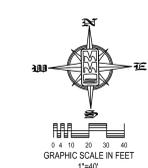
UTILITIES
THE CONTRACTOR SHALL NOTIFY IOWA ONE CALL 800-447-2244 AT LEAST 48 HRS. IN ADVANCE OF ANY DIGGING OR EXCAVATION.
WHERE PUBLIC UTILITY FIXTURES ARE SHOWN AS EXISTING ON THE PLANS OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNERS OF THOSE UTILITIES PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. THE CONTRACTOR SHALL AFFORD ACCESS TO THESE FACILITIES FOR NECESSARY MODIFICATION OF SERVICES. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS, AND THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THERE MAY BE OTHERS THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION AND TO AVOID DAMAGE THEREIN NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.

BENCHMARK INFORMATION

POINT	ELEVATION	DATUM	DESCRIPTION
No. 1	772.218'	NAVD83	BENCHMARK AT NORTH SIDE OF SAINT ANDREWS DRIVE AT NORTHING 638646.67, EASTING 2149423.21, MMS POINT 503.

HORIZONTAL CONTROL

POINT	NORTHING	EASTING	DESCRIPTION
H1	638659.21	2150122.74	CUT AN "X" ON THE N BACK OF CURB ON NORTH SIDE OF SAINT ANDREWS DRIVE, APPROX 1,438 FEET EAST OF SAINT ANDREWS DRIVE AND KANSAS AVE INTERSECTION. MMS CONTROL POINT 503.
H2	638638.15	2148905.28	CUT AN "X" ON THE N BACK OF CURB ON NORTH SIDE OF SAINT ANDREWS DRIVE, APPROX 55 FEET EAST OF SAINT ANDREWS DRIVE AND KANSAS AVE INTERSECTION. MMS CONTROL POINT 503.
V1	638277.85	2148840.67	5/8" REBAR, RED CAP, FOUND ON THE WEST SIDE OF CURB ON WEST SIDE OF KANSAS AVE, APPROX 225 FEET SOUTH OF SAINT ANDREWS DRIVE AND KANSAS AVE INTERSECTION. MMS CONTROL POINT 502.



SITE PLAN THE PRESERVE, LOT 1 NORTH LIBERTY, IOWA

PLAT PREPARED BY: MMS CONSULTANTS INC. 1917 S. GILBERT STREET IOWA CITY, IA 52240
APPLICANT/OWNER: WATTS GROUP DEVELOPMENT, INC. 425 E. OAKDALE BLVD, SUITE 101 CORALVILLE, IA 52241
APPLICANT'S ATTORNEY: MICHAEL J. PUGH 425 E. OAKDALE BLVD, SUITE 201 CORALVILLE, IA 52241



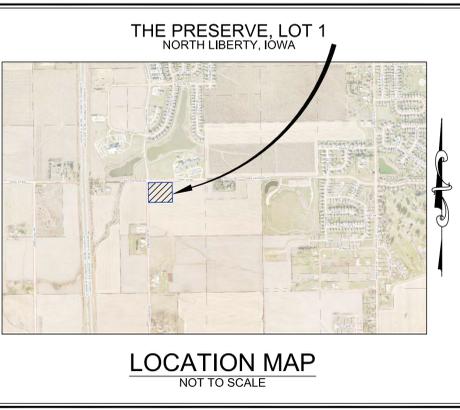
STANDARD LEGEND AND NOTES

- PROPERTY &/A BOUNDARY LINES
- CONVEYANCIAL SECTION LINES
- RIGHT-OF-WAY LINES
- EXISTING RIGHT-OF-WAY LINES
- CENTER LINES
- EXISTING LOT LINES
- LOT LINES, INTERNAL
- EXISTING LINES EITHER BY DEED
- PROPOSED EASEMENT LINES
- EXISTING EASEMENT LINES
- BENCHMARK
- RECORDED DIMENSIONS
- CURVE SEGMENT NUMBER
- EXIST- 22-1
- PROP- 22-1
- POWER POLE
- POWER POLE W/DROP
- POWER POLE W/TRANS
- POWER POLE W/LIGHT
- CUT POLE
- LIGHT POLE
- SANITARY MANHOLE
- FIRE HYDRANT
- WATER VALVE
- DRAINAGE MANHOLE
- CURB INLET
- FINISH LINE
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- WATER LINES
- ELECTRICAL LINES
- TELEPHONE LINES
- GAS LINES
- CONTOUR LINES (1' INTERVAL)
- PROPOSED GROUND
- EXISTING TREE LINE
- EXISTING DECIDUOUS TREE & SHRUB
- EXISTING EVERGREEN TREES & SHRUBS

PAVING LEGEND

- 7" PCC (50,513 SF)
- 6" PCC (11,905 SF)
- 4" PCC (68,073 SF) (DRIVEWAYS SHALL HAVE REINFORCING)

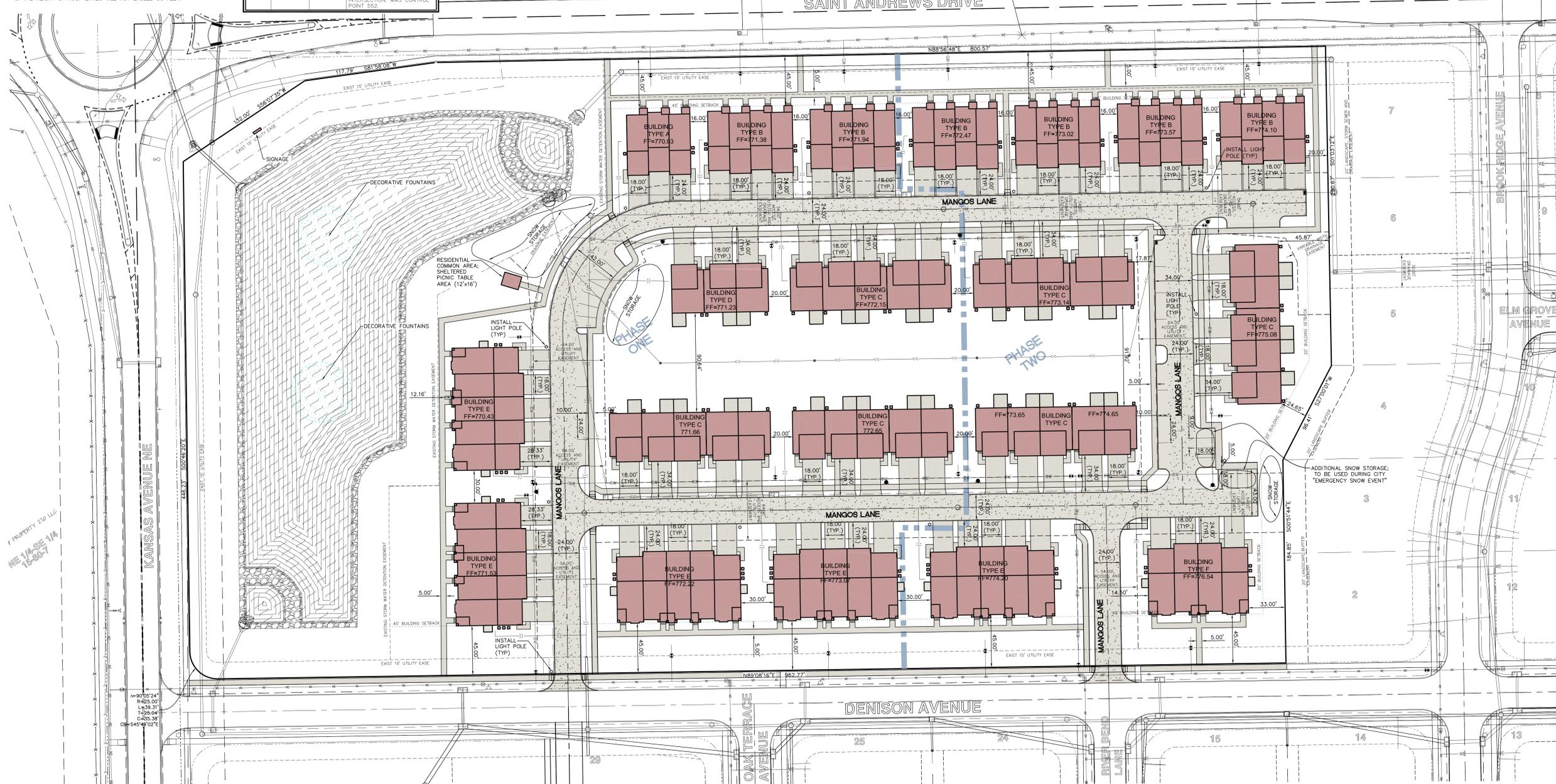
THESE QUANTITIES INCLUDE ALL SITE IMPROVEMENTS



PROFESSIONAL ENGINEER SEAL
RONALD L. AMELON
IOWA 14201
I hereby certify that this engineering document 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 Iowa.
Date: 02/01/2019
P.E. Iowa Lic. No. 14201
31 sheets covered by this seal.

- SHEET INDEX
- OVERALL SITE LAYOUT PLAN
 - GRADING & EROSION CONTROL PLAN AND SWPPP
 - PAVING DETAILS, PROFILE & DIMENSION PLAN
 - SANITARY SEWER PLAN
 - WATER MAIN PLAN
 - STORM SEWER PLAN
 - LANDSCAPE PLAN
 - INTERNAL DETAILS
 - GENERAL NOTES AND DETAILS

THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL PER IDOT STANDARD ROAD PLANS AND CITY OF NORTH LIBERTY REQUIREMENTS AT ALL TIMES DURING WORK WITHIN PUBLIC R.O.W.
THE CONTRACTOR SHALL COORDINATE WITH UTILITY PROVIDERS FOR ANY REQUIRED RELOCATION OF EXISTING UTILITIES.



1/2 PROPERTY 270 ILL.
NE 1/4 SE 1/4
16-00-07



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- SHEET INDEX**
- 1 OVERALL SITE LAYOUT PLAN
 - 2 GRADING & EROSION CONTROL PLAN AND SWPPP
 - 3 PAVING DETAILS, PROFILE & DIMENSION PLAN
 - 4 PAVING DETAILS, PROFILE & DIMENSION PLAN
 - 5 PAVING DETAILS, PROFILE & DIMENSION PLAN
 - 6 PAVING DETAILS, PROFILE & DIMENSION PLAN
 - 7 SANITARY SEWER PLAN
 - 8 WATER MAIN PLAN
 - 9 STORM SEWER PLAN
 - 10 LANDSCAPE PLAN
 - 11 INTERSECTION DETAILS
 - 12 GENERAL NOTES AND DETAILS

STANDARD LEGEND AND NOTES

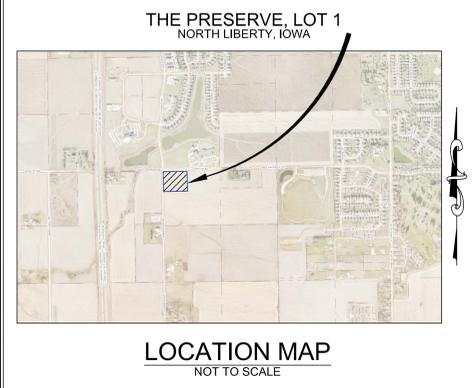
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- PROPOSED EASEMENT LINES
- EXISTING EASEMENT LINES
- BENCHMARK
- RECORDED DIMENSIONS
- CURVE SEGMENT NUMBER

EXIST: 12" 24" 36" 48" 60" 72" 84" 96" 108" 120" 144" 168" 192" 216" 240" 264" 288" 312" 336" 360" 384" 408" 432" 456" 480" 504" 528" 552" 576" 600" 624" 648" 672" 696" 720" 744" 768" 792" 816" 840" 864" 888" 912" 936" 960" 984" 1008" 1032" 1056" 1080" 1104" 1128" 1152" 1176" 1200" 1224" 1248" 1272" 1296" 1320" 1344" 1368" 1392" 1416" 1440" 1464" 1488" 1512" 1536" 1560" 1584" 1608" 1632" 1656" 1680" 1704" 1728" 1752" 1776" 1800" 1824" 1848" 1872" 1896" 1920" 1944" 1968" 1992" 2016" 2040" 2064" 2088" 2112" 2136" 2160" 2184" 2208" 2232" 2256" 2280" 2304" 2328" 2352" 2376" 2400

PROP: 12" 24" 36" 48" 60" 72" 84" 96" 108" 120" 144" 168" 192" 216" 240" 264" 288" 312" 336" 360" 384" 408" 432" 456" 480" 504" 528" 552" 576" 600" 624" 648" 672" 696" 720" 744" 768" 792" 816" 840" 864" 888" 912" 936" 960" 984" 1008" 1032" 1056" 1080" 1104" 1128" 1152" 1176" 1200" 1224" 1248" 1272" 1296" 1320" 1344" 1368" 1392" 1416" 1440" 1464" 1488" 1512" 1536" 1560" 1584" 1608" 1632" 1656" 1680" 1704" 1728" 1752" 1776" 1800" 1824" 1848" 1872" 1896" 1920" 1944" 1968" 1992" 2016" 2040" 2064" 2088" 2112" 2136" 2160" 2184" 2208" 2232" 2256" 2280" 2304" 2328" 2352" 2376" 2400

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GAS LINES
CONTOUR LINES (1' INTERVAL)
PROPOSED CURB
EXISTING TREE LINE
EXISTING DECIDUOUS TREE & SHRUB
EXISTING EVERGREEN TREES & SHRUBS

THE ACTUAL SIZE AND LOCATION OF ALL PROPOSED FACILITIES SHALL BE VERIFIED WITH CONSTRUCTION DOCUMENTS, WHICH ARE TO BE PREPARED AND SUBMITTED SUBSEQUENT TO THE APPROVAL OF THIS DOCUMENT.



UTILITIES
THE CONTRACTOR SHALL NOTIFY IOWA ONE CALL NO LESS THAN 48 HRS. IN ADVANCE OF ANY DIGGING OR EXCAVATION.
WHERE PUBLIC UTILITY FIXTURES ARE SHOWN AS EXISTING ON THE PLANS OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNERS OF THOSE UTILITIES PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. THE CONTRACTOR SHALL AFFORD ACCESS TO THESE FACILITIES FOR NECESSARY MODIFICATION OF SERVICES. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS, AND THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION AND TO AVOID DAMAGE THEREOF. NO CLAIM FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.

GRADING TOPSOIL NOTE:
PRIOR TO FINAL SEEDING, ALL GREEN SPACE SHALL BE TILLED TO A MINIMUM DEPTH OF 12" AND COVERED WITH A MINIMUM OF 6" OF TOPSOIL. CONTRACTOR SHALL BE RESPONSIBLE FOR STOCKPILING ADEQUATE TOPSOIL FOR ALL GREEN SPACE.

GRADING AND EROSION CONTROL NOTES

TOTAL SITE AREA: 12.93 ACRES
TOTAL AREA TO BE DISTURBED: 8.36 ACRES
EROSION CONTROL MEASURES SHALL BE USED DURING FILL ACTIVITIES. EROSION CONTROL MEASURES SHALL BE REEVALUATED AND MODIFIED, IF NECESSARY, AT THE TIME OF SITE DEVELOPMENT.
ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES THAT COULD BE USED ON SITE, IF NEEDED, CAN BE FOUND IN APPENDIX D OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) BINDER PREPARED FOR THE SITE. IF ADDITIONAL MEASURES ARE USED, INDICATE THE TYPE AND LOCATION OF SAID MEASURE ON THIS PLAN.
CONTRACTOR SHALL INSTALL A ROCK ENTRANCE AND PERFORM REGULAR CLEANING OF VEHICLES THAT LEAVE THE SITE.
FOLLOWING INSTALLATION OF PERIMETER SILT FENCE AND TEMPORARY CONSTRUCTION ENTRANCE THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR TO SCHEDULE A SITE INSPECTION PRIOR TO ANY SOIL DISTURBING ACTIVITIES.
THE CONTRACTOR SHALL FOLLOW THE NPDES PERMIT, SWPPP, AND THE CITY CSR REGULATIONS.
THE EROSION CONTROL CONTRACTOR SHALL INSTALL FILTER SOCKS OR OTHER APPROVED FORM OF INLET PROTECTION AT EACH STREET INTAKE ADJACENT TO THE SITE.

STABILIZATION SEEDING

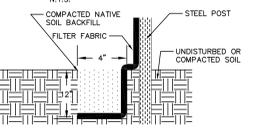
STABILIZATION SEEDING SHALL BE IN ACCORDANCE WITH SUDAS SECTION 9010.02 SEED MIXTURES AND SEEDING DATES.

TABLE 9010.06: TYPE 4 SEED MIXTURE

COMMON NAME	APPLICATION RATE lb/acre
SPRING - MARCH 1 - MAY 20	
ANNUAL RYEGRASS	40
OATS*	65
SUMMER - MAY 21 - AUGUST 14	
ANNUAL RYEGRASS	50
OATS*	95
FALL - AUGUST 15 - SEPTEMBER 30	
ANNUAL RYEGRASS	40
ANNUAL RYEGRASS	65

* ENGINEER MAY DELETE FOR PREVIOUSLY ESTABLISHED URBAN AREAS.
FERTILIZER SHALL BE APPLIED AT A RATE OF 300 LBS PER ACRE USING CHEMICALLY COMBINED COMMERCIAL 13-13-13 FERTILIZER (SUDAS SECTION 9010.03 A.2)

SILT FENCE DETAIL



INSTALLATION

1. POSTS SHALL BE 1.33 POUNDS PER LINEAL FOOT STEEL WITH A MINIMUM LENGTH OF 3 FEET. STEEL POSTS SHALL HAVE PROJECTIONS FOR FASTENING WIRE TO THEM.
2. SILT FENCE FABRIC SHALL CONFORM TO I.D.O.T. STANDARD SPECIFICATION SECTION 4196.01.A. SILT FENCING SHALL BE A MINIMUM OF 24" AND A MAXIMUM OF 36" HIGH WHEN COMPLETE.
3. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL, CUT TO THE LENGTH OF THE FENCE TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, THE FILTER CLOTH SHALL BE SPACED A MAXIMUM OF 8 FEET APART AND DRIVEN SECURELY INTO THE GROUND ALONG THE FENCE ALIGNMENT. POSTS SHALL BE DRIVEN INTO THE GROUND A MINIMUM OF 28".
4. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4" WIDE BY 12" DEEP ALONG THE UPSLOPE SIDE OF THE POSTS. FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE POSTS SUCH THAT THE FABRIC EXTENDS INTO THE TRENCH AS SHOWN. ABOVE THE FABRIC SHALL BE FASTENED A MINIMUM OF THREE PLACES ON EACH POST. THE TRENCH SHALL BE BACK FILLED WITH EXCAVATED MATERIAL AND THOROUGHLY COMPACTED.

MAINTENANCE

1. SILT FENCES SHALL BE INSPECTED WEEKLY AND AFTER EACH RAIN-FALL EVENT OF 0.5 INCHES OR MORE. DURING PERIODS OF PROLONGED RAIN INSPECTIONS SHALL BE AT LEAST DAILY. ANY REPAIRS NEEDED TO MAINTAIN THE SILT FENCE'S EFFECTIVENESS SHALL BE MADE IMMEDIATELY.
2. SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO STABILIZING THE UPSLOPE AREAS THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN THE DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE FENCE. SILTS REMOVED SHALL BE PLACED IN A PROTECTED PLACE THAT WILL PREVENT THEIR ESCAPE FROM THE CONSTRUCTION SITE.
4. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER NEEDED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDING.
5. SILT FENCE SHALL REMAIN IN PLACE UNTIL IT IS NO LONGER NEEDED AS DIRECTED BY THE POLLUTION PREVENTION PLAN. GENERALLY SILT FENCES SHALL REMAIN UNTIL THE UPSLOPE AREAS ARE STABILIZED WITH AN ESTABLISHED GRASS COVER AS A MINIMUM.

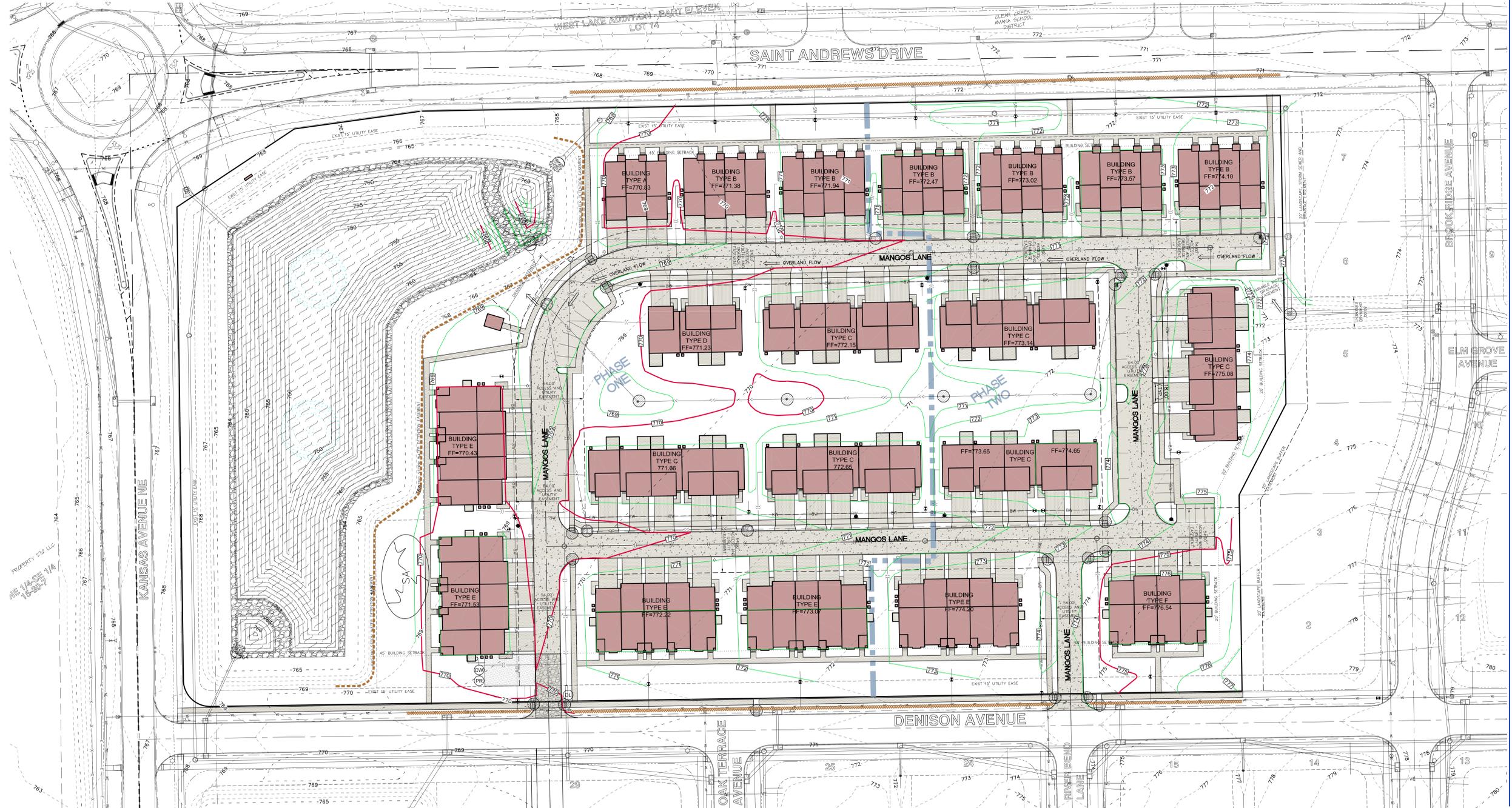
EROSION CONTROL LEGEND

- SILT FENCE
- PERIMETER SILT FENCE
- EROSION CONTROL MATTING
- TEMPORARY ROCK CONSTRUCTION ENTRANCE/EXIT
- TEMPORARY SOIL STOCKPILE AREA
- TEMPORARY PARKING AND STORAGE
- DIRECTION OF OVERLAND FLOW
- CONCRETE TRUCK/EQUIPMENT WASHOUT
- DUMPSITER FOR CONSTRUCTION WASTE
- PORTABLE RESTROOM
- RIP RAP OUTLET PROTECTION
- DOCUMENT LOCATION (PERMITS, SWPPP, INSPECTION FORMS, ETC.)
- OTHER MEASURE: 01
- OTHER MEASURE: 02
- OTHER MEASURE: 03
- OTHER MEASURE: 04
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- OTHER MEASURE: 100

THE ABOVE LISTED ITEMS ARE SHOWN IN THEIR RECOMMENDED LOCATIONS. IF A CONTROL MEASURE IS ADDED OR MOVED TO A MORE SUITABLE LOCATION, INDICATE THE REVISION ON THIS SHEET. THE SPACES LEFT FOR OTHER MEASURES SHOULD BE USED IF AN ITEM NOT SHOWN ABOVE IS IMPLEMENTED ON SITE. ADDITIONAL PRACTICES FOR EROSION PREVENTION AND SEDIMENT CONTROL CAN BE FOUND IN APPENDIX D OF THE SWPPP.

MINIMUM LOW OPENING

LOT NO.	ELEVATION
1	768.0



GRADING & EROSION CONTROL PLAN AND SWPPP

THE PRESERVE
LOT 1
NORTH LIBERTY
JOHNSON COUNTY
IOWA

MMS CONSULTANTS, INC.
Date: 02-01-2019
Designed by: RLA
Drawn by: KLE
Checked by: RLA
Project No: NORTH LIBERTY 1331-615
Field Book No:
Scale: 1"=40'
Sheet No: 2
of: 12



CIVIL ENGINEERS
LAND SURVEYORS
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LANDSCAPE ARCHITECTS
ENVIRONMENTAL SPECIALISTS

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www.mmsconsultants.net

Date	Revision
02-21-19	PER CITY COMMENTS -KLE
03-08-19	PER CITY COMMENTS -AAK
03-15-19	PER CITY COMMENTS -KLE
03-27-19	PER CITY ENGINEER REVISIONS -CAK

PAVING DETAILS,
PROFILE &
DIMENSION PLAN

SITE PLAN THE PRESERVE, LOT 1 NORTH LIBERTY, IOWA

PLAT PREPARED BY:
MMS CONSULTANTS INC.
1917 S. GILBERT STREET
IOWA CITY, IA 52240

APPLICANT/OWNER:
WATTS GROUP DEVELOPMENT, INC.
425 E. OAKDALE BLVD, SUITE 101
CORALVILLE, IA 52241

APPLICANT'S ATTORNEY:
MICHAEL J. PUGH
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CORALVILLE, IA 52241

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 - WATER MAIN PLAN
 - STORM SEWER PLAN
 - LANDSCAPE PLAN
 - INTERSECTION DETAILS
 - GENERAL NOTES AND DETAILS

GRADING LEGEND

- 000.00EX = EXISTING SURFACE
- 000.00 = TOP SLAB
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STANDARD LEGEND AND NOTES

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- RIGHT-OF-WAY LINES
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- CENTER LINES
- EXISTING CENTER LINES
- LOT LINES, INTERNAL
- LOT LINES, PLATTED OR BY DEED
- PROPOSED EASEMENT LINES
- EXISTING EASEMENT LINES
- BENCHMARK
- SECONDARY DIMENSIONS
- CURVE SEGMENT NUMBER

EXIST- 22-1

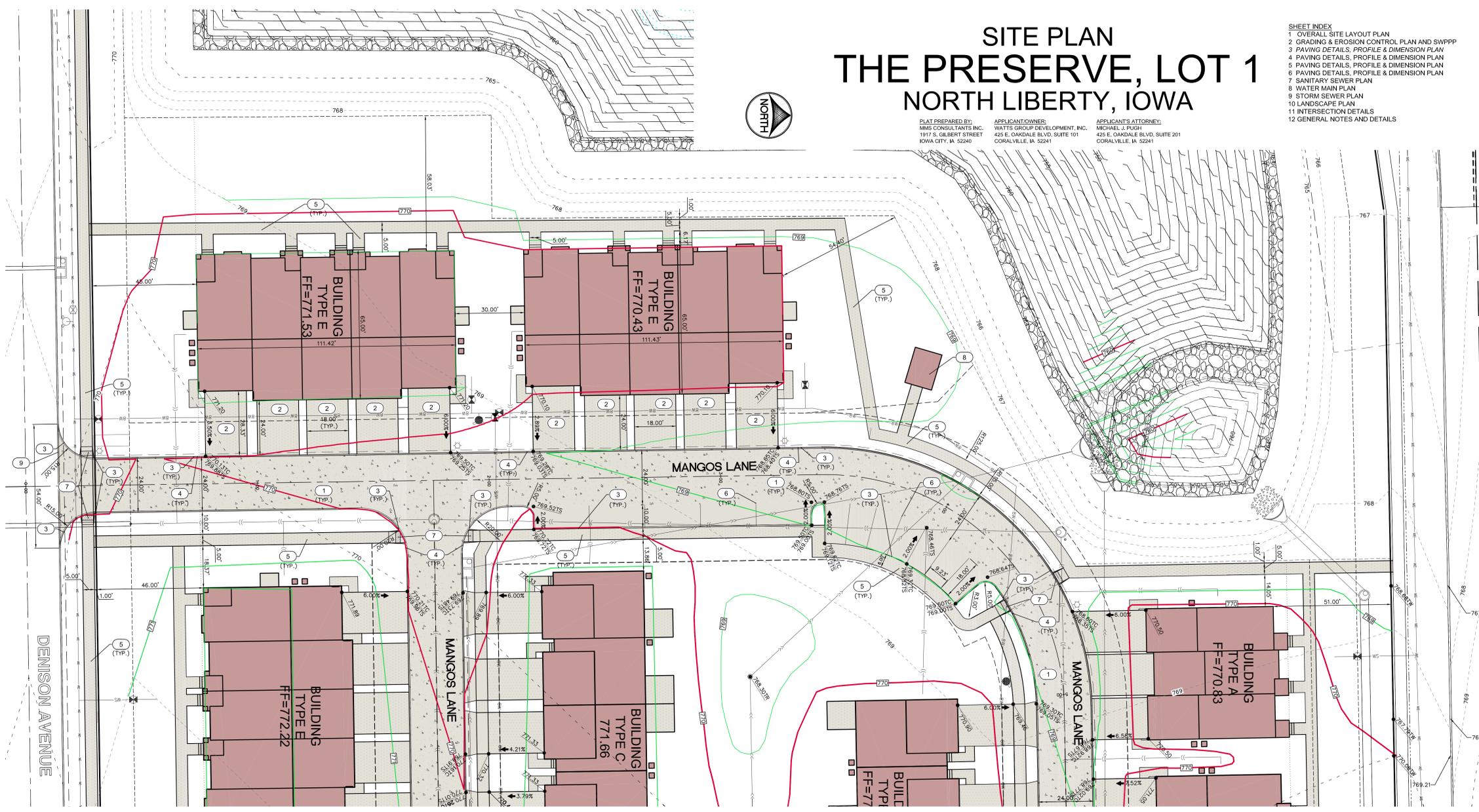
- POWER POLE
- POWER POLE W/DROP
- POWER POLE W/TRANS
- POWER POLE W/LIGHT
- GUY POLE
- LIGHT POLE
- SANITARY MANHOLE
- FIRE HYDRANT
- WATER VALVE
- DRAINAGE MANHOLE
- CURB INLET
- FINISH LINE
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- WATER LINES
- ELECTRICAL LINES
- TELEPHONE LINES
- GAS LINES
- CENTUR LINES (1' INTERVAL)
- PROPOSED GROUND
- EXISTING TREE LINE
- EXISTING DECIDUOUS TREE & SHRUB
- EXISTING EVERGREEN TREES & SHRUBS

PAVING LEGEND

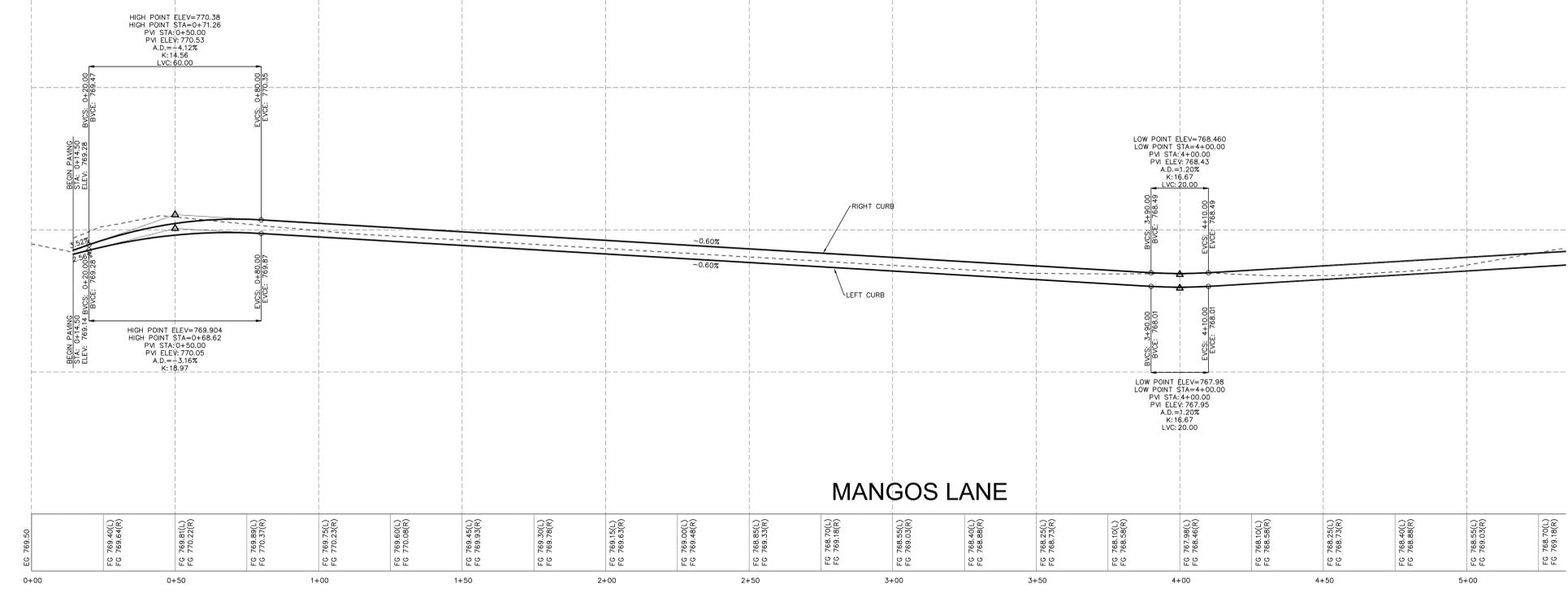
- 7" PCC
- 6" PCC
- 4" PCC (DRIVEWAYS SHALL HAVE REINFORCING)

THE CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL PER IDOT STANDARD ROAD PLANS AND CITY OF NORTH LIBERTY REQUIREMENTS AT ALL TIMES DURING WORK WITHIN PUBLIC R.O.W.

THE CONTRACTOR SHALL COORDINATE WITH UTILITY PROVIDERS FOR ANY REQUIRED RELOCATION OF EXISTING UTILITIES.



NOTE: ALL ELEVATIONS ARE TOP OF SLAB AT GUTTER UNLESS NOTED OTHERWISE.



KEYNOTES

NUMBER	KEYNOTE	DETAIL
1	INSTALL 7" DRIVE PER DETAIL (THICKNESS AND MATERIALS AS NOTED). SEE DETAILS, AS NOTED ON SHEET 11	
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7	INSTALL ACCESSIBLE CURB RAMP PER DETAIL. SEE DETAIL, AS NOTED ON SHEET 11.	
8	RESIDENTIAL COMMON AREA	
9	SAWCUT EXISTING CURB, INSTALL TYPE 'A' CONCRETE DRIVEWAY PER SUDAS DETAIL 7030.101	
GENERAL NOTE	CONTRACTOR SHALL TRANSITION CURB BETWEEN 3" ROLL CURB AND 6" STANDARD CURB AT LOCATIONS NOTED WITH KEY NOTES 3 AND 4 ON THIS SHEET.	

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THE PRESERVE
LOT 1
NORTH LIBERTY
JOHNSON COUNTY
IOWA

MMS CONSULTANTS, INC.

Date: 02-01-2019

Designed by: RLA

Drawn by: KLE

Checked by: RLA

Project No: NORTH LIBERTY

1331-615

Scale: 1/11"=20' (V1)*22'

Sheet No: 3

of 12

SITE PLAN

THE PRESERVE, LOT 1

NORTH LIBERTY, IOWA

PLAT PREPARED BY:
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1917 S. GILBERT STREET
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APPLICANT/OWNER:
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APPLICANT'S ATTORNEY:
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425 E. OAKDALE BLVD, SUITE 201
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12.86 ACRES



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STANDARD LEGEND AND NOTES	
	PROPERTY &/or BOUNDARY LINES
	CONGRESSIONAL SECTION LINES
	RIGHT-OF-WAY LINES
	EXISTING RIGHT-OF-WAY LINES
	CENTER LINES
	LOT LINES
	LOT LINES, INTERNAL
	LOT LINES, PLATTED OR BY DEED
	PROPOSED EASEMENT LINES
	EXISTING EASEMENT LINES
	BENCHMARK
	RECORDED DIMENSIONS
	CURVE SEGMENT NUMBER
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	EXISTING DECIDUOUS TREE & SHRUB
	EXISTING EVERGREEN TREE & SHRUBS
	POWER POLE W/PROP
	POWER POLE W/TRANS
	POWER POLE W/LIGHT
	GUY POLE
	LIGHT POLE
	SANITARY MANHOLE
	FIRE HYDRANT
	WATER VALVE
	DRAINAGE MANHOLE
	CURB INLET
	FENCE LINE
	EXISTING SANITARY SEWER
	PROPOSED SANITARY SEWER
	EXISTING STORM SEWER
	PROPOSED STORM SEWER
	WATER LINES
	ELECTRICAL LINES
	TELEPHONE LINES
	GAS LINES
	CONTOUR LINES (1' INTERVAL)
	PROPOSED GROUND

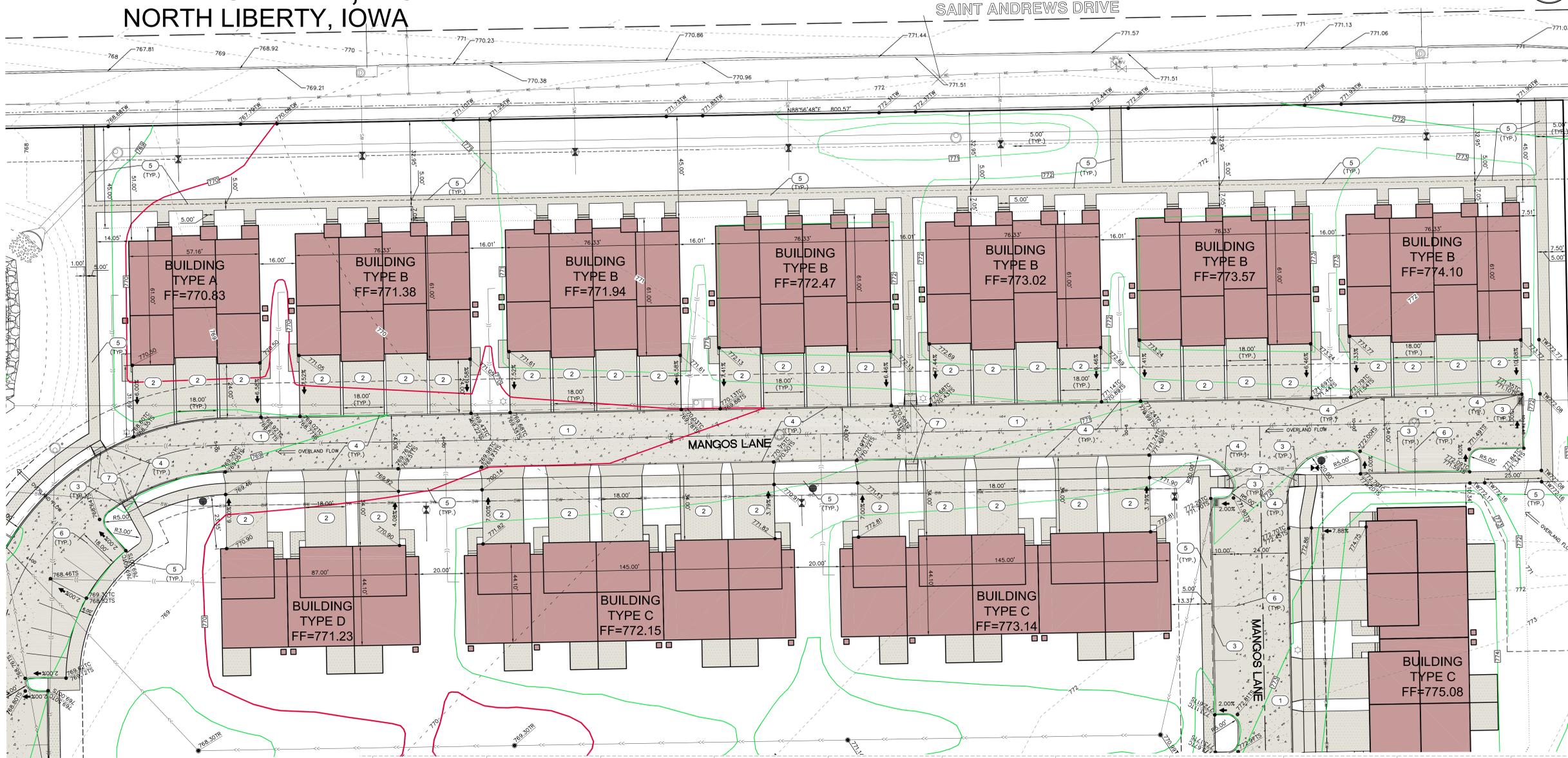
PAVING LEGEND	
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	6" PCC
	4" PCC
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GRADING LEGEND	
	EXISTING SURFACE
	TOP SLAB
	TOP WALK
	TOP CURB
	TOP RIM

Date	Revision
02-21-19	PER CITY COMMENTS -KLE
03-08-19	PER CITY COMMENTS -AAK
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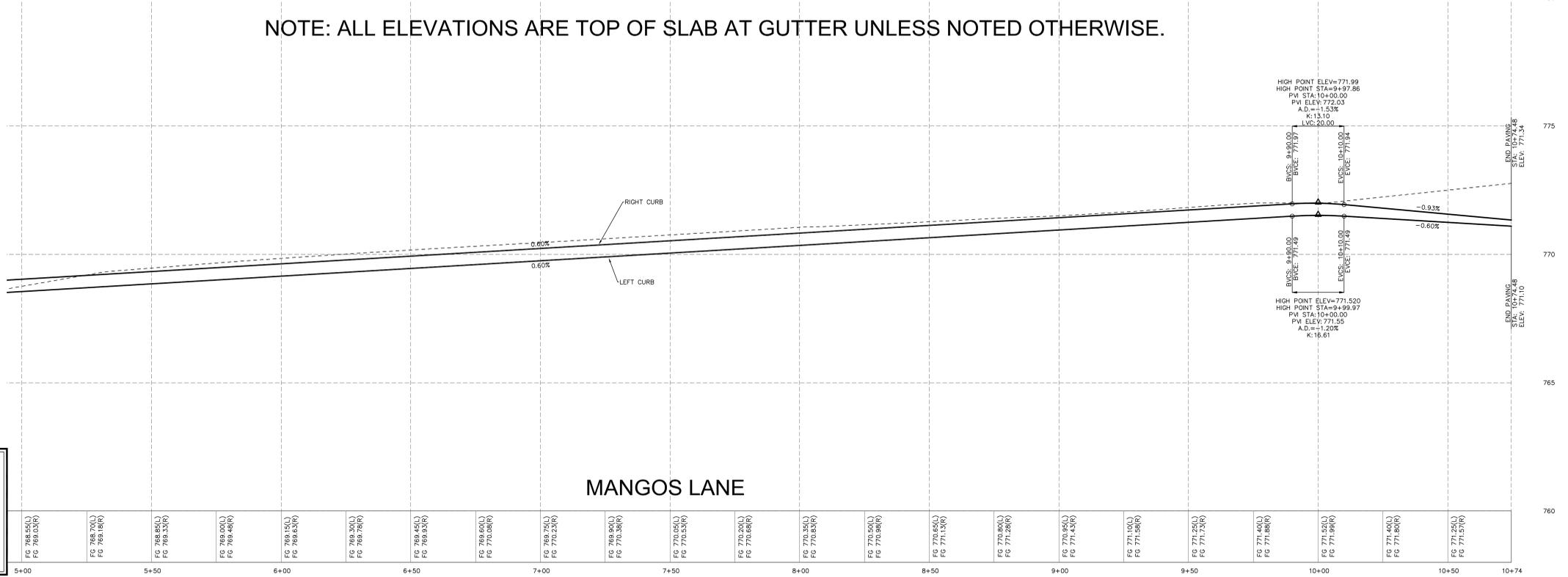


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9	SAWOUT EXISTING CURB; INSTALL TYPE 'A' CONCRETE DRIVEWAY PER SUDAS DETAIL 7030.101	
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3	PAVING DETAILS, PROFILE & DIMENSION PLAN
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PAVING DETAILS,
PROFILE &
DIMENSION PLAN

THE PRESERVE
LOT 1

NORTH LIBERTY
JOHNSON COUNTY
IOWA

MMS CONSULTANTS, INC.

Date: 02-01-2019

Designed by: RLA

Drawn by: KLE

Checked by: RLA

Project No: NORTH LIBERTY

1331-615

Scale: 1/11"=20' (V11)*2'

Sheet No: 4

of 12



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LAND SURVEYORS
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IOWA CITY, IOWA 52240
(319) 351-6282
www.mmsconsultants.net

SITE PLAN THE PRESERVE, LOT 1 NORTH LIBERTY, IOWA

PLAT PREPARED BY: HMS CONSULTANTS INC. 1917 S. GILBERT STREET IOWA CITY, IA 52240
APPLICANT/OWNER: WATTS GROUP DEVELOPMENT, INC. 425 E. OAKDALE BLVD, SUITE 101 CORALVILLE, IA 52241
APPLICANT'S ATTORNEY: MICHAEL J. FUGH 425 E. OAKDALE BLVD, SUITE 201 CORALVILLE, IA 52241

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STANDARD LEGEND AND NOTES

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- BENCHMARK
- RECORDED DIMENSIONS
- CURVE SEGMENT NUMBER

EXIST- PROP

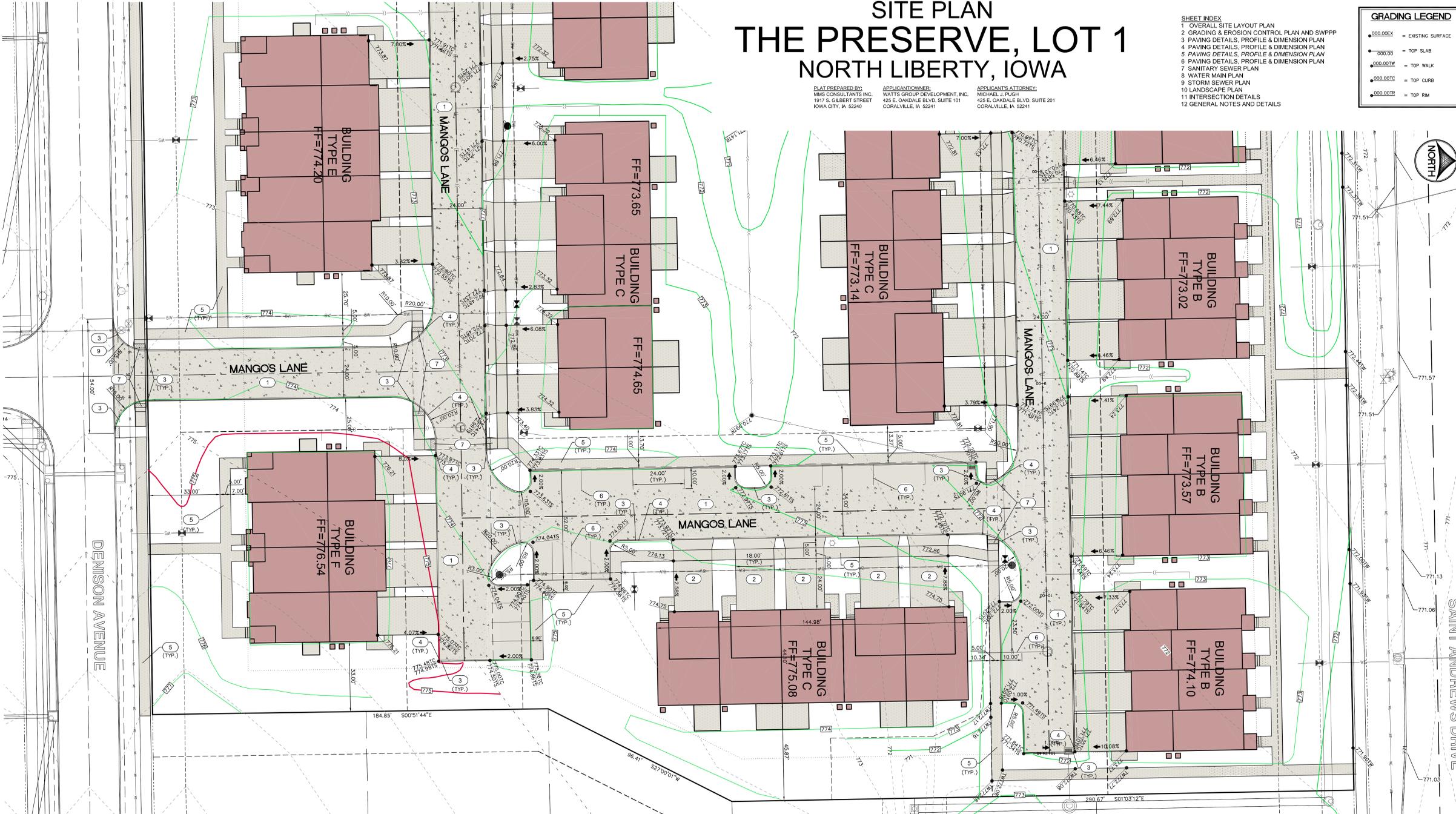
- 22-1
- POWER POLE
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- POWER POLE W/TRANS
- POWER POLE W/LIGHT
- GUY POLE
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- 4" PCC (DRIVEWAYS SHALL HAVE REINFORCING)

Date Revision

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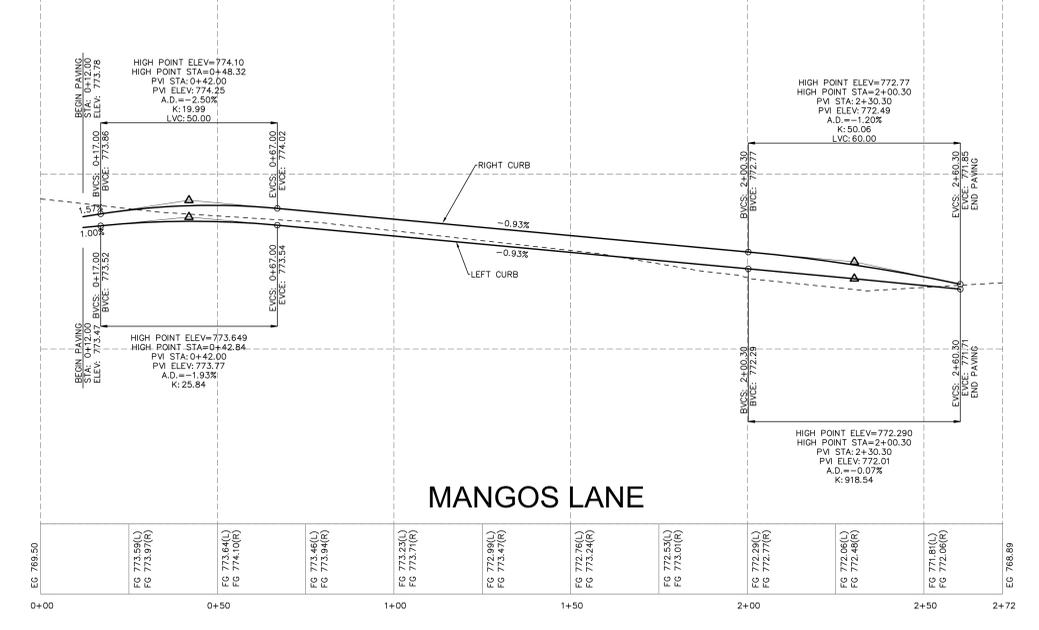
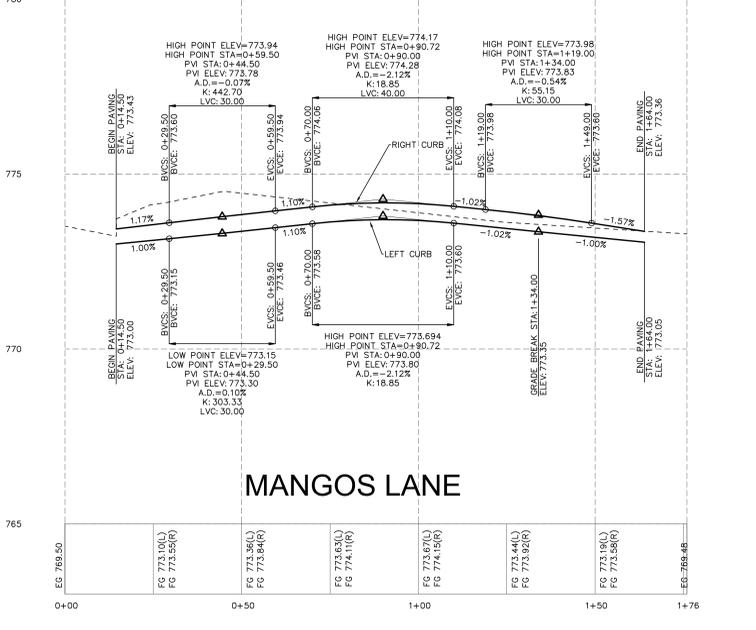
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**THE PRESERVE
LOT 1**

NORTH LIBERTY
JOHNSON COUNTY
IOWA

MMS CONSULTANTS, INC.
Date: 02-01-2019
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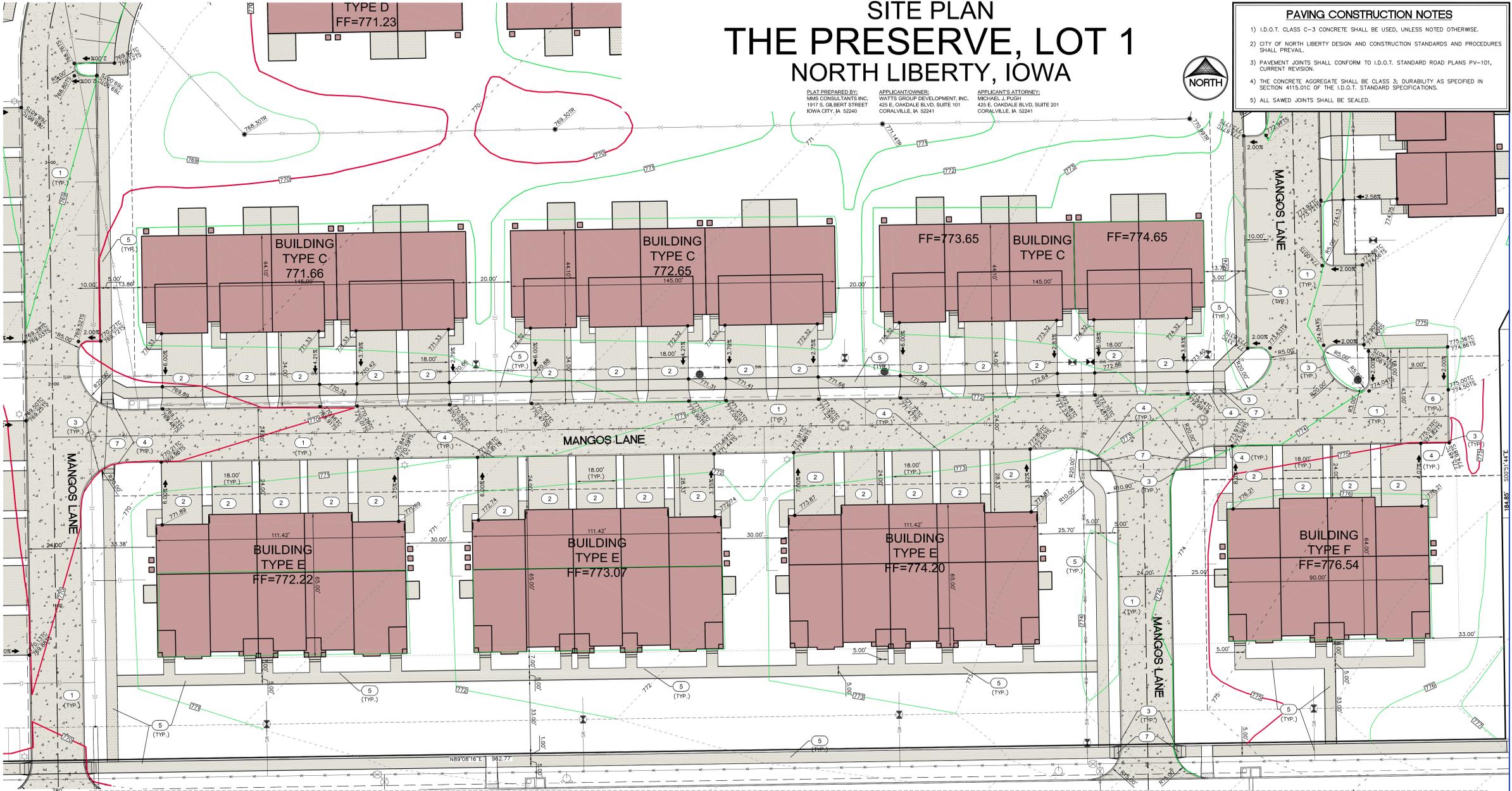
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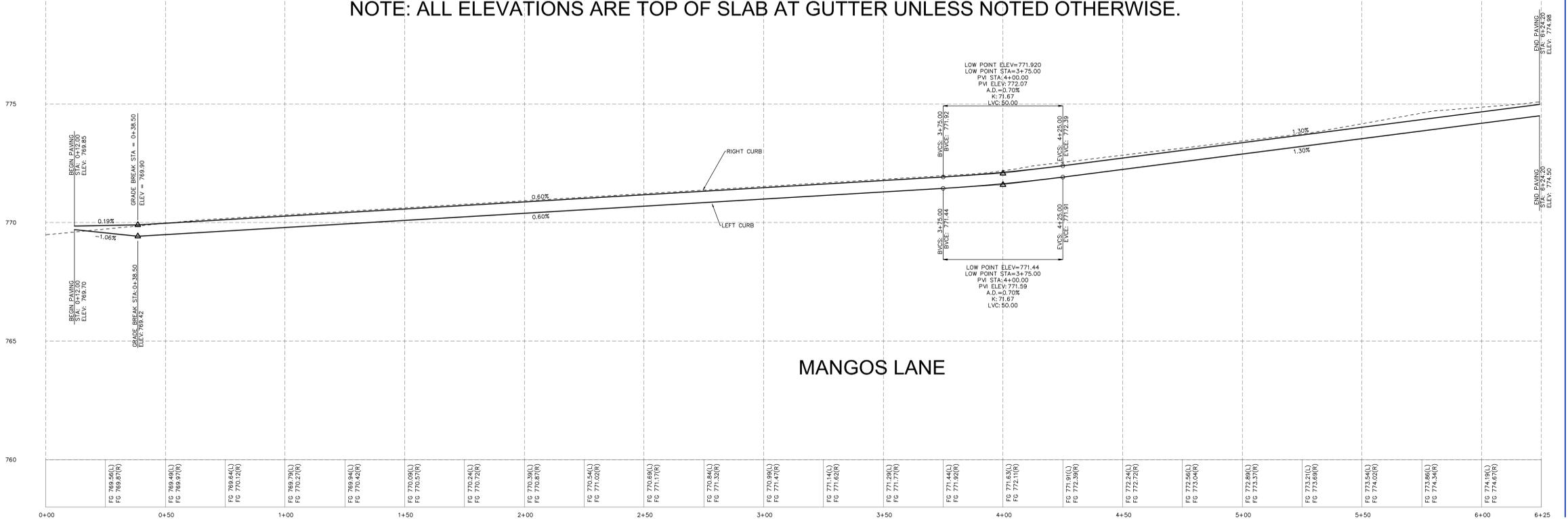
GRADING LEGEND	
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7	INSTALL ACCESSIBLE CURB RAMP PER DETAIL. SEE DETAIL, AS NOTED ON SHEET 11.	
8	RESIDENTIAL COMMON AREA	
9	SAWCUT EXISTING CURB; INSTALL TYPE 'A' CONCRETE DRIVEWAY PER SUDAS DETAIL 7030.101	
GENERAL NOTE	CONTRACTOR SHALL TRANSITION CURB BETWEEN 3" ROLL CURB AND 6" STANDARD CURB AT LOCATIONS NOTED WITH KEY NOTES 3 AND 4 ON THIS SHEET.	



PAVING DETAILS,
PROFILE &
DIMENSION PLAN

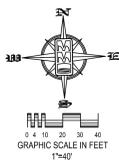
THE PRESERVE
LOT 1
NORTH LIBERTY
JOHNSON COUNTY
IOWA

MMS CONSULTANTS, INC.	
Date:	02-01-2019
Designed by:	RLA
Drawn by:	KLE
Checked by:	RLA
Project No:	1331-615
Sheet No:	6



CIVIL ENGINEERS
LAND PLANNERS
LAND SURVEYORS
LANDSCAPE ARCHITECTS
ENVIRONMENTAL SPECIALISTS
1917 S. GILBERT ST.
IOWA CITY, IOWA 52240
(319) 351-6282
www.mmsconsultants.net

SITE PLAN THE PRESERVE, LOT 1 NORTH LIBERTY, IOWA



PLAT PREPARED BY:
MMS CONSULTANTS INC.
1917 S. GILBERT STREET
IOWA CITY, IA 52240

APPLICANT/OWNER:
WATTS GROUP DEVELOPMENT, INC.
425 E. OAKDALE BLVD, SUITE 101
CORALVILLE, IA 52241

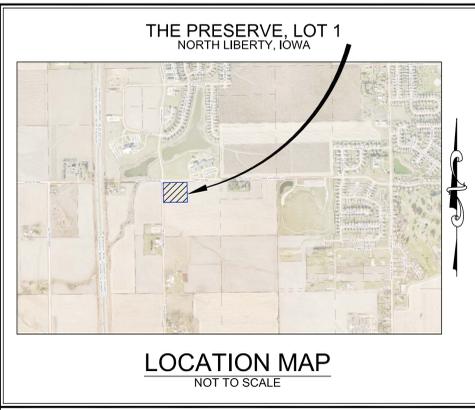
APPLICANT'S ATTORNEY:
MICHAEL J. PUGH
425 E. OAKDALE BLVD, SUITE 201
CORALVILLE, IA 52241

STANDARD LEGEND AND NOTES

- PROPERTY &/or BOUNDARY LINES
- CONGRESSIONAL SECTION LINES
- RIGHT-OF-WAY LINES
- EXISTING RIGHT-OF-WAY LINES
- CENTER LINES
- EXISTING CENTER LINES
- LOT LINES, INTERNAL
- LOT LINES, PLATTED OR BY DEED
- PROPOSED EASEMENT LINES
- EXISTING EASEMENT LINES
- BENCHMARK
- RECORDED DIMENSIONS
- CURVE SEGMENT NUMBER

EXIST - PROP

- POWER POLE
- POWER POLE W/DROP
- POWER POLE W/TRANS
- POWER POLE W/LIGHT
- OUT POLE
- LIGHT POLE
- SANITARY MANHOLE
- FIRE HYDRANT
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- CURB INLET
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- PROPOSED STORM SEWER
- WATER LINES
- ELECTRICAL LINES
- TELEPHONE LINES
- GAS LINES
- CONTOUR LINES (1' INTERVAL)
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- EXISTING TREE LINE
- EXISTING DECIDUOUS TREE & SHRUB
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- STORM SEWER PLAN
- LANDSCAPE PLAN
- INTERSECTION DETAILS
- GENERAL NOTES AND DETAILS

- NOTES:**
- ALL PROPOSED SANITARY SEWER SHALL BE PRIVATE.
 - 4" PVC SANITARY SERVICE, 2% MINIMUM SLOPE.

Date	Revision
02-21-19	PER CITY COMMENTS -KLE
03-08-19	PER CITY COMMENTS -AAK
03-15-19	PER CITY COMMENTS -KLE
03-27-19	PER CITY ENGINEER REVISIONS -CAK

SANITARY SEWER PLAN

THE PRESERVE LOT 1

NORTH LIBERTY
JOHNSON COUNTY
IOWA

MMS CONSULTANTS, INC.

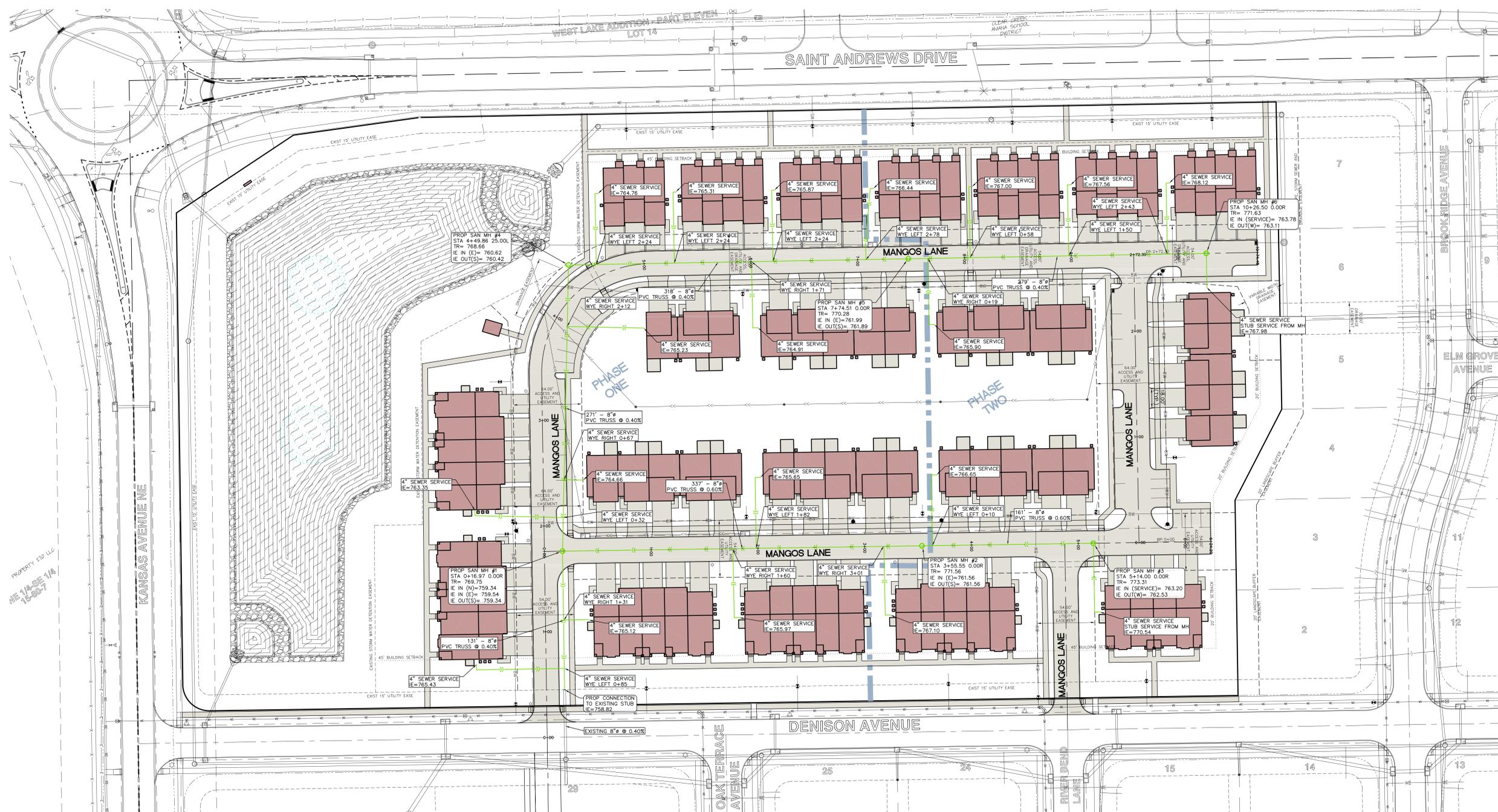
Date: 02-01-2019

Designed by: RLA Field Book No:

Drawn by: KLE Scale: 1"=40'

Checked by: RLA Sheet No: 7

Project No: NORTH LIBERTY 1331-615 of 12

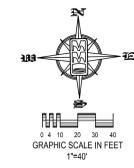




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SITE PLAN THE PRESERVE, LOT 1 NORTH LIBERTY, IOWA

PLAT PREPARED BY: MMS CONSULTANTS INC. 1917 S. GILBERT STREET IOWA CITY, IA 52240
APPLICANT/OWNER: WATTS GROUP DEVELOPMENT, INC. 425 E. OAKDALE BLVD, SUITE 101 CORALVILLE, IA 52241
APPLICANT'S ATTORNEY: MICHAEL J. PUGH 425 E. OAKDALE BLVD, SUITE 201 CORALVILLE, IA 52241



STANDARD LEGEND AND NOTES

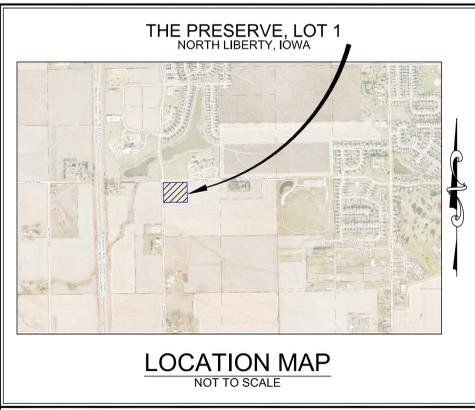
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EXISTING

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- EXISTING EVERGREEN TREES & SHRUBS

PROPOSED

- 22-1



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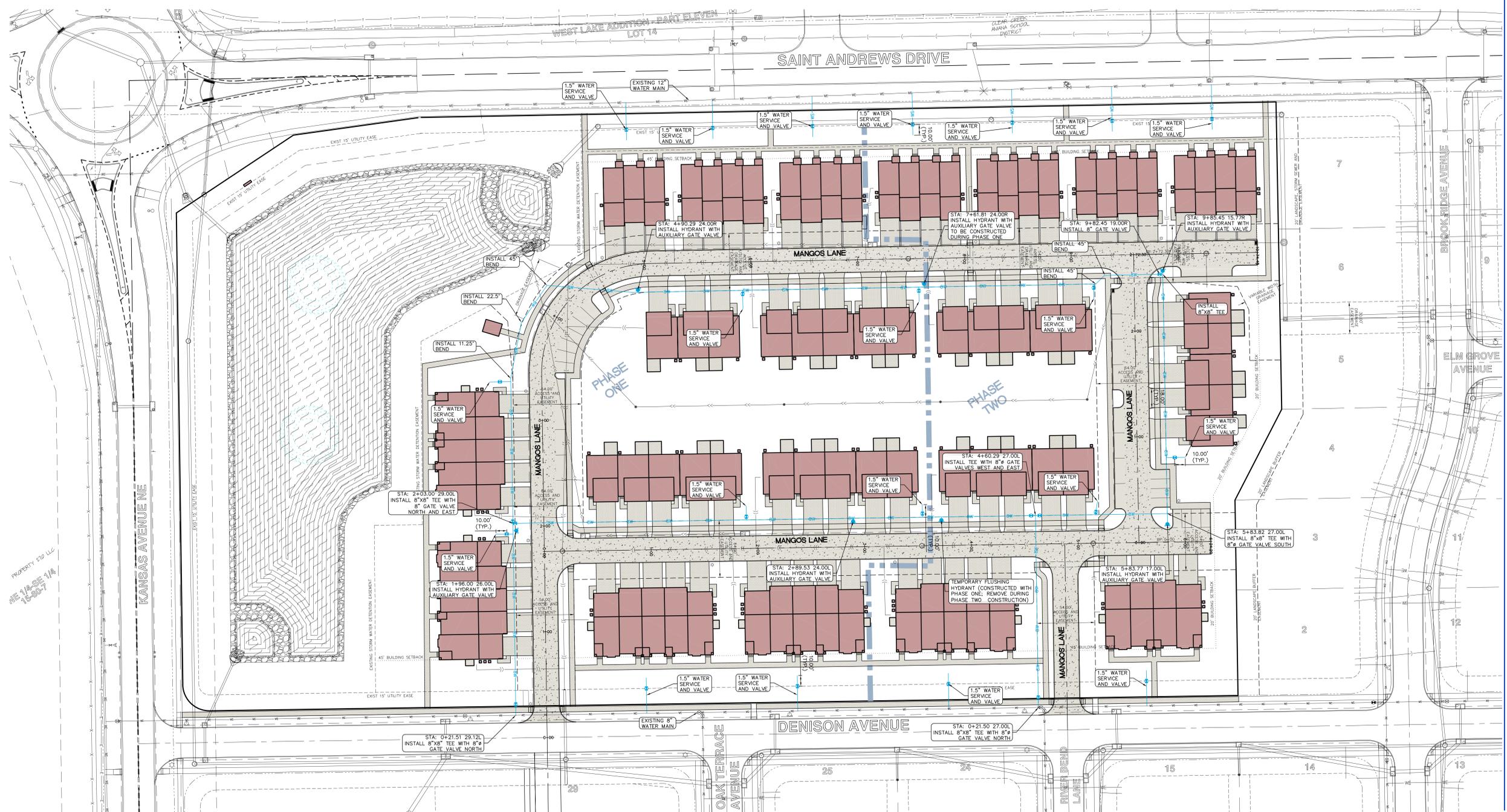
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03-08-19	PER CITY COMMENTS -AAK
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03-27-19	PER CITY ENGINE REVISIONS -CAK



WATERMAIN PLAN

THE PRESERVE LOT 1

NORTH LIBERTY
JOHNSON COUNTY
IOWA

MMS CONSULTANTS, INC.

Date: 02-01-2019

Designed by: RLA
Drawn by: KLE
Checked by: RLA

Field Book No.:
Scale: 1"=40'
Sheet No.: 8

Project No.: NORTH LIBERTY 1331-615

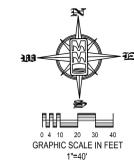
of: 12



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SITE PLAN THE PRESERVE, LOT 1 NORTH LIBERTY, IOWA

PLAT PREPARED BY: MMS CONSULTANTS INC. 1917 S. GILBERT STREET IOWA CITY, IA 52240
APPLICANT/OWNER: WATTS GROUP DEVELOPMENT, INC. 425 E. OAKDALE BLVD, SUITE 101 CORALVILLE, IA 52241
APPLICANT'S ATTORNEY: MICHAEL J. PUGH 425 E. OAKDALE BLVD, SUITE 201 CORALVILLE, IA 52241



STANDARD LEGEND AND NOTES

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- CURVE SEGMENT NUMBER

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LOCATION MAP
NOT TO SCALE

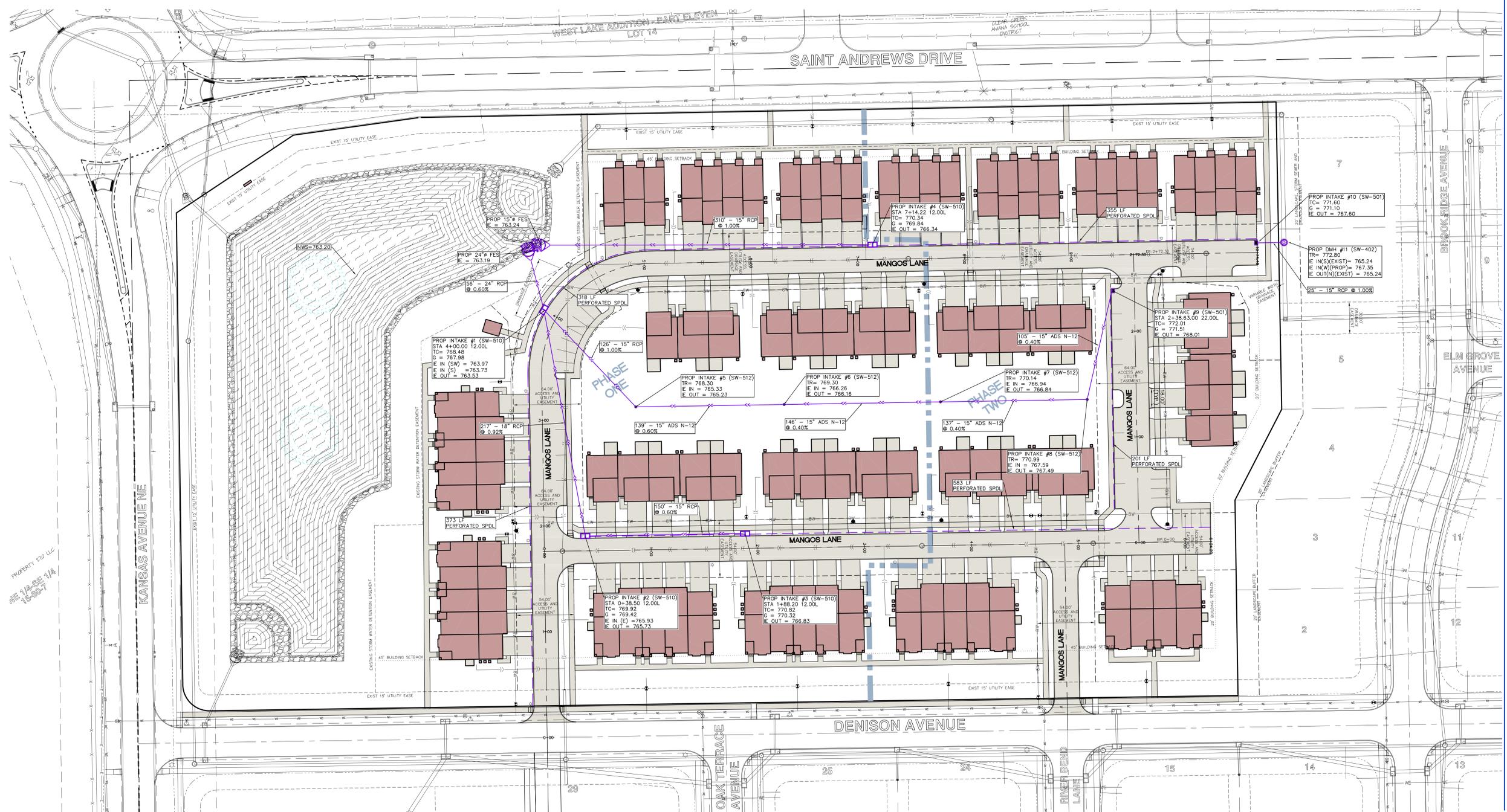
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STORM SEWER PLAN

THE PRESERVE LOT 1

NORTH LIBERTY
JOHNSON COUNTY
IOWA

MMS CONSULTANTS, INC.

Date: 02-01-2019

Designed by: RLA
Drawn by: KLE
Checked by: RLA

Field Book No.:
Scale: 1"=40'
Sheet No.: 9

Project No.: NORTH LIBERTY
1331-615

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INTERSECTION DETAILS

THE PRESERVE LOT 1

NORTH LIBERTY
JOHNSON COUNTY
IOWA

MMS CONSULTANTS, INC.

Date: 02-01-2019

Designed by: RLA Field Book No.

Drawn by: KLE Scale: 1"=10'

Checked by: RLA Sheet No.

Project No. 11

1331-615

of 12

SITE PLAN THE PRESERVE, LOT 1 NORTH LIBERTY, IOWA

PLAT PREPARED BY:
MMS CONSULTANTS INC.
1917 S. GILBERT STREET
IOWA CITY, IA 52240

APPLICANT/OWNER:
WATTS GROUP DEVELOPMENT, INC.
425 E. OAKDALE BLVD, SUITE 101
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APPLICANT'S ATTORNEY:
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CORALVILLE, IA 52241

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- 1 OVERALL SITE LAYOUT PLAN
 - 2 GRADING & EROSION CONTROL PLAN AND SWPPP
 - 3 PAVING DETAILS, PROFILE & DIMENSION PLAN
 - 4 PAVING DETAILS, PROFILE & DIMENSION PLAN
 - 5 PAVING DETAILS, PROFILE & DIMENSION PLAN
 - 6 PAVING DETAILS, PROFILE & DIMENSION PLAN
 - 7 SANITARY SEWER PLAN
 - 8 WATER MAIN PLAN
 - 9 STORM SEWER PLAN
 - 10 LANDSCAPE PLAN
 - 11 INTERSECTION DETAILS
 - 12 GENERAL NOTES AND DETAILS

- PAVING CONSTRUCTION NOTES**
- 1) I.D.O.T. CLASS C-3 CONCRETE SHALL BE USED, UNLESS NOTED OTHERWISE.
 - 2) CITY OF NORTH LIBERTY DESIGN AND CONSTRUCTION STANDARDS AND PROCEDURES SHALL PREVAIL.
 - 3) PAVEMENT JOINTS SHALL CONFORM TO I.D.O.T. STANDARD ROAD PLANS PV-101, CURRENT REVISION.
 - 4) THE CONCRETE AGGREGATE SHALL BE CLASS 3, DURABILITY AS SPECIFIED IN SECTION 4115.01C OF THE I.D.O.T. STANDARD SPECIFICATIONS.
 - 5) ALL SAWED JOINTS SHALL BE SEALED.

STANDARD LEGEND AND NOTES

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PAVING LEGEND

- 7" PCC (48,767 SF)
- 6" PCC (10,028 SF)
- 4" PCC (71,113 SF) (DRIVEWAYS SHALL HAVE REINFORCING)

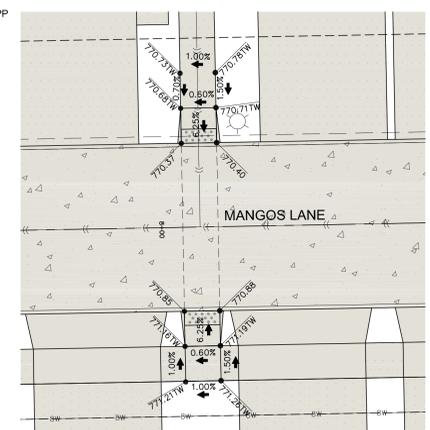
THESE QUANTITIES INCLUDE ALL SITE IMPROVEMENTS

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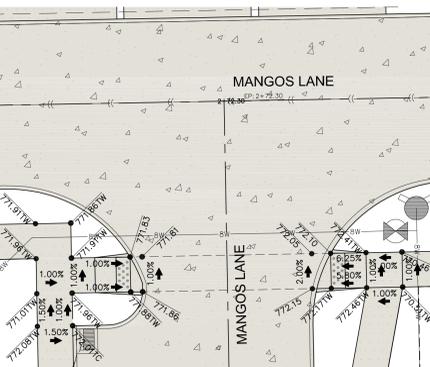
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GRADING LEGEND

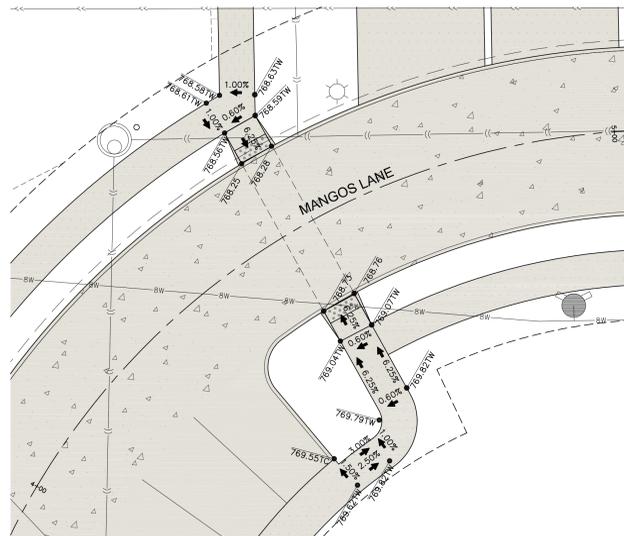
- 0.0000EX = EXISTING SURFACE
- 0.0000 = TOP SLAB
- 0.0000TW = TOP WALK
- 0.0000TC = TOP CURB
- 0.0000TR = TOP RIM



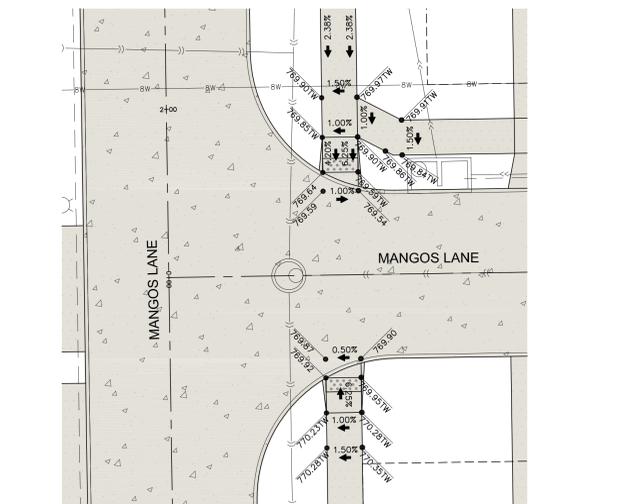
MANGOS LANE SIDEWALK DETAIL
SCALE: 1"=10'



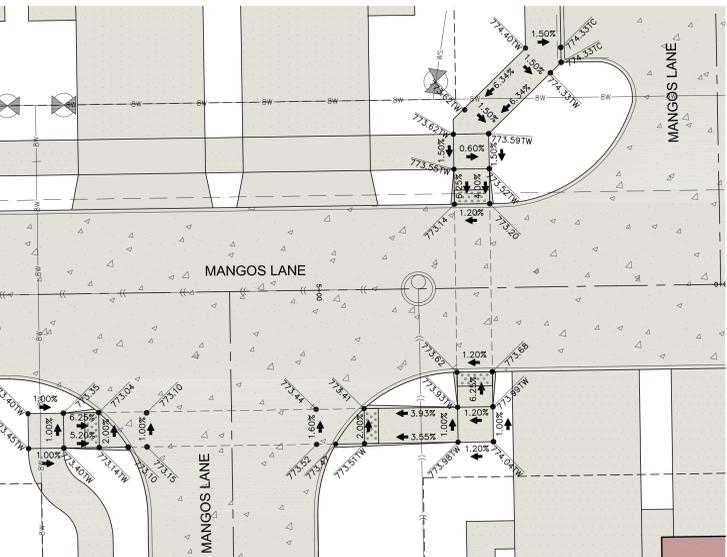
MANGOS LANE & MANGOS LANE SIDEWALK DETAIL
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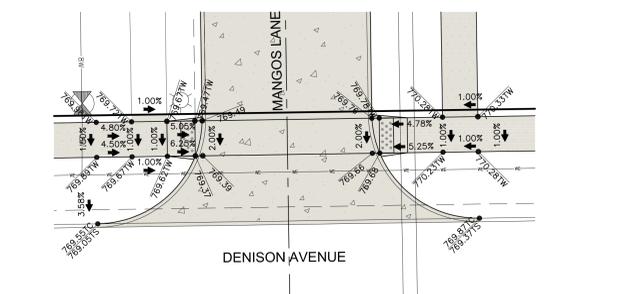
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SCALE: 1"=10'



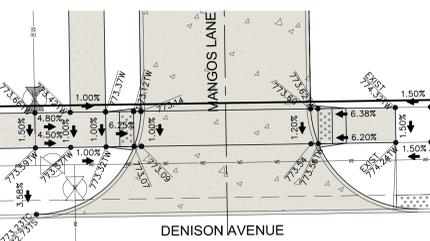
MANGOS LANE & MANGOS LANE SIDEWALK DETAIL
SCALE: 1"=10'



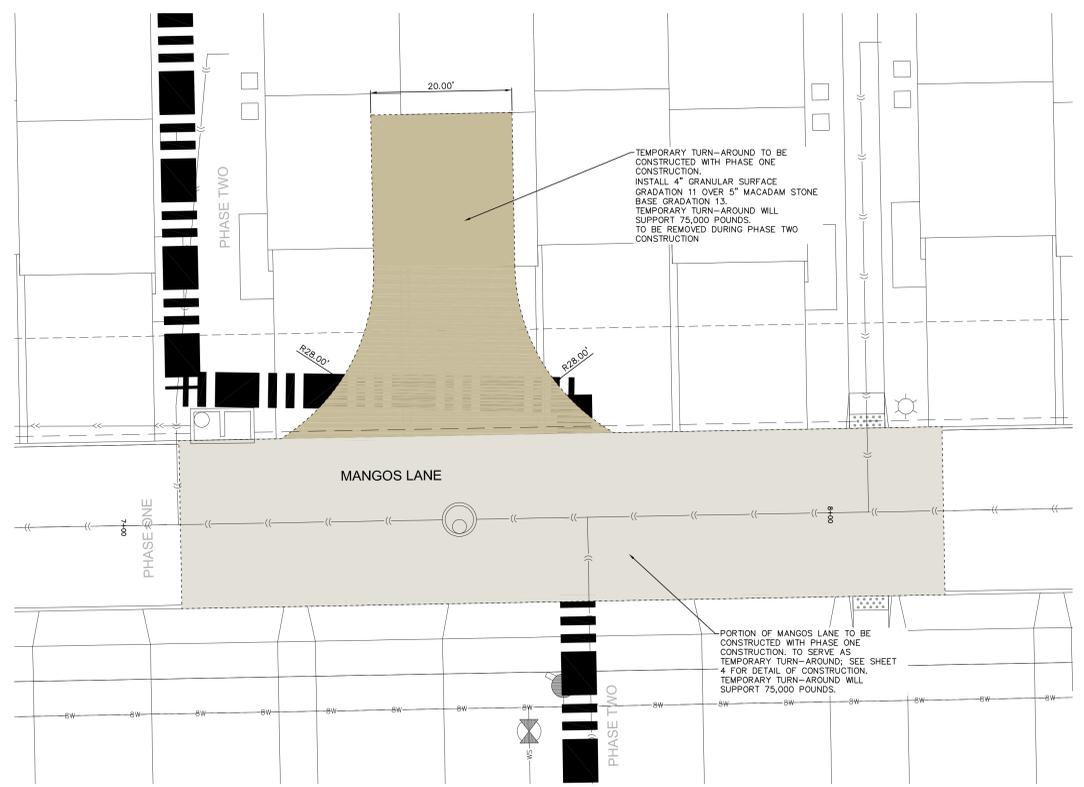
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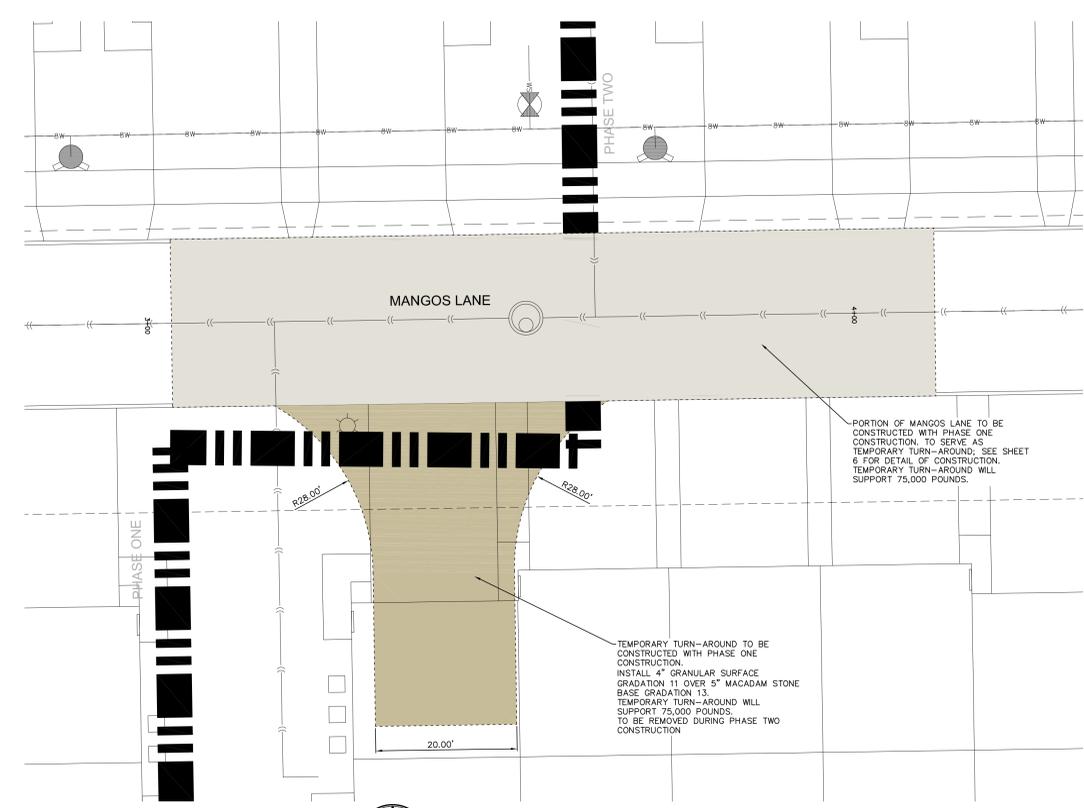
MANGOS LANE SIDEWALK DETAIL
SCALE: 1"=10'



MANGOS LANE SIDEWALK DETAIL
SCALE: 1"=10'



MANGOS LANE AUTO TURN DETAIL
SCALE: 1"=10'



MANGOS LANE AUTO TURN DETAIL
SCALE: 1"=10'



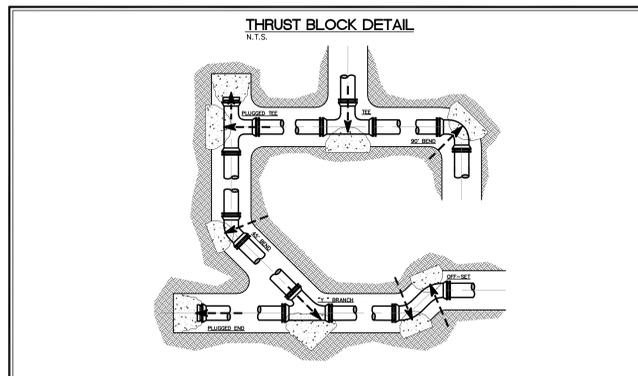
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GENERAL NOTES AND DETAILS

THE PRESERVE
LOT 1
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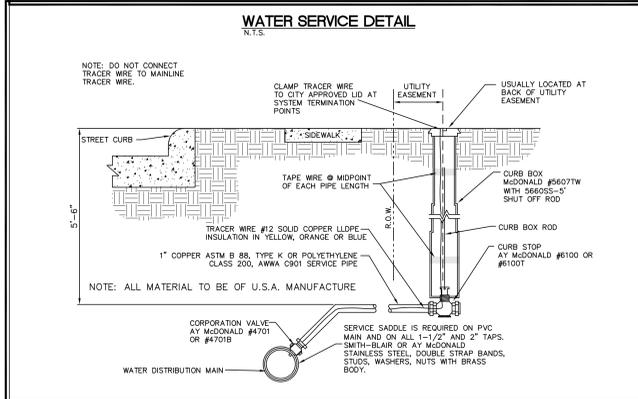
MMS CONSULTANTS, INC.
Date: 02-01-2019
Designed by: RLA
Scale: NTS
Drawn by: KLE
Checked by: RLA
Project No: 1331-615
1331-615
of 12



THRUST BLOCKS ARE REQUIRED AT PIPING DIRECTION CHANGES, AT DEAD ENDS, AND AT FIRE HYDRANTS. THRUST BLOCKS MAY BE PRECAST MASONRY UNITS, OR CAST IN PLACE CONCRETE. CAST-IN-PLACE CONCRETE SHALL NOT BE USED AT FIRE HYDRANTS. POURED-IN-PLACE CONCRETE SHALL BE 2000 P.S.I. MINIMUM STRENGTH, A MINIMUM OF 18 INCHES THICK, AND SHALL BE CAST AGAINST A SOLID, UNDISTURBED EDGE OF TRENCH FOR BEARING. NO BOLTS, JOINTS OR BRASS HOLES SHALL CONTACT WITH THE CONCRETE. THRUST BLOCK AND THE PIPE SHALL BE WRAPPED WITH A PLASTIC SHEET AT THE CONCRETE BEARING SURFACES. THE MINIMUM THICKNESS OF ANY THRUST BLOCK SHALL BE 18 INCHES.

THRUST BLOCK MINIMUM BEARING AREA (IN CUBIC FEET)

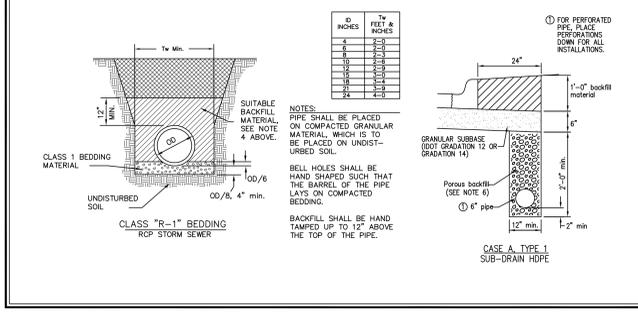
PIPE OR TEE	DEAD END	90° BEND	45° BEND	11-1/4 OR 22-1/2 BEND
4"	3.0	8.0	4.0	2.5
6"	8.0	18.0	9.0	6.0
8"	10.0	24.0	12.0	8.0
10"	15.0	36.0	18.0	12.0
12"	21.0	50.0	25.0	16.0
14"	28.0	67.0	33.0	21.0
16"	36.0	87.0	42.0	27.0
20"	55.0	138.0	66.0	41.0
24"	78.0	198.0	96.0	57.0



NOTE: DO NOT CONNECT TRACER WIRE TO MAINLINE TRACER WIRE. CLAMP TRACER WIRE TO CITY APPROVED LID AT SYSTEM TERMINATION POINTS. USUALLY LOCATED AT BACK OF UTILITY EASEMENT. TAPES WIRE @ MIDPOINT OF EACH PIPE LENGTH. CURB BOX MCDONALD #6607TW WITH 566055-5" SHUT OFF ROD. CURB BOX ROD. CURB STOP MCDONALD #6100 OR #6100T. TRACER WIRE #12 SOLID COPPER LIDDE INSULATION IN YELLOW, ORANGE OR BLUE. 1" COPPER ASTM B 88, TYPE K OR POLYETHYLENE CLASS 200, ANNA C901 SERVICE PIPE. NOTE: ALL MATERIAL TO BE OF U.S.A. MANUFACTURE. CORPORATION VALVE- AT MCDONALD #4701 OR #4701B. SERVICE SADDLE IS REQUIRED ON PVC MAIN AND ON ALL 1-1/2" AND 2" TAPS. SMITH-BLANK OR AT MCDONALD STAINLESS STEEL DOUBLE STRAP BANDS, STUDS, WASHERS, NUTS WITH BRASS BODY.

STORM SEWER AND SUB-SURFACE CONSTRUCTION NOTES

- ALL STORM SEWER AND SUB-SURFACE CONSTRUCTION SHALL CONFORM TO PLANS AND DETAILS PREPARED FOR THIS PROJECT BY MMS CONSULTANTS, INC., AS WELL AS CONFORM TO THE IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS) MANUAL, CONSTRUCTION SHALL ALSO CONFORM TO THE CURRENT CITY OF NORTH LIBERTY DESIGN STANDARDS, WHICH SHALL SUPERSEDE PLANS AND DETAILS PROVIDED BY MMS CONSULTANTS.
- ALL STORM SEWER INTAKE AND MANHOLE LIDS SHALL HAVE THE WORDS "STORM SEWER" CAST INTO THE LID.
- ALL REINFORCED CONCRETE PIPE STORM SEWER SHALL BE CLASS III UNLESS NOTED OTHERWISE IN THE PLANS.
- ALL REINFORCED CONCRETE PIPE (RCP) SHALL CONFORM TO SUDAS SPECIFICATION 4020.2.01.A WITH THE FOLLOWING ADDITIONAL RESTRICTIONS: ALL RCP JOINTS FOR 36" AND SMALLER PIPE SHALL HAVE TRENCH BACKFILL AND GROOVE JOINTS INCORPORATING RUBBER "O"-RING OR PROFILE GASKETS COMPLYING WITH ASTM C443 OR SHALL BE TONGUE AND GROOVE WITH ALL JOINTS WRAPPED WITH FILTER FABRIC A MINIMUM OF 24" WIDE.
- RCP PIPE BEDDING SHALL CONFORM TO SUDAS FIGURE 3010.102 CLASS R-1 CLASS 1 BEDDING MATERIAL SHALL BE AS SPECIFIED IN SUDAS SPECIFICATION 3010.2.02.A. TRENCH BACKFILL SHALL BE SUITABLE EXCAVATED MATERIAL AS IDENTIFIED IN SUDAS SPECIFICATION 3010.2.01.A PLACED AND COMPACTED IN ACCORDANCE WITH SECTIONS 3.05.9 AND E.
- SUB-SURFACE DRAINAGE PIPE SHALL BE HIGH DENSITY POLYETHYLENE PIPE (HDPE) CONFORMING TO SUDAS SPECIFICATION 4040.2.02.C FOR BOTH PERFORATED TILE AND SOLID WALL PIPE.
- FOR SUB-SURFACE DRAINAGE IN TURF AREAS HDPE PIPE BEDDING SHALL CONFORM TO SUDAS FIGURE 3010.103 CLASS F-3 BEDDING MATERIAL SHALL BE POROUS BACKFILL MATERIAL AS SPECIFIED IN SUDAS SPECIFICATION 4040.2.04. TRENCH BACKFILL SHALL BE SUITABLE EXCAVATED MATERIAL AS IDENTIFIED IN SUDAS SPECIFICATION 3010.2.01.A PLACED AND COMPACTED IN ACCORDANCE WITH SECTIONS 3.05.9 AND E.
- FOR SUB-SURFACE DRAINAGE UNDER PAVEMENT HDPE PIPE INSTALLATION SHALL CONFORM TO SUDAS FIGURE 4040.2.01, CASE C TYPE 1 BEDDING AND BACKFILL MATERIAL SHALL BE AS SPECIFIED IN SUDAS SPECIFICATION 4040.2.04.
- AT LOCATIONS WHERE A FLARED END SECTION IS REQUIRED, THE PIPE LENGTHS SHALL BE MEASURED TO THE END OF THE FLARED END. THE FLARED END SECTION AND THE TWO UPSTREAM JOINTS ARE TO INCORPORATE TIED JOINTS.
- ALL FIELD TILE ENCOUNTERED DURING CONSTRUCTION SHALL BE CONNECTED TO THE PROPOSED STORM SEWER. NOTIFY ENGINEER OF ALL FIELD TILE ENCOUNTERS.



SANITARY SEWER AND WATER MAIN CONSTRUCTION NOTES

- **ALL SANITARY SEWER MANHOLE LIDS SHALL HAVE THE WORDS "SANITARY SEWER" CAST IN THE LID**
- SANITARY SEWER AND WATER MAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AS PREPARED BY MMS CONSULTANTS, INC. CONSTRUCTION SHALL ALSO CONFORM TO THE IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS) MANUAL, AND TO THE CITY OF NORTH LIBERTY STANDARDS AND APPROVED MANUFACTURERS/AGENTS.
 - ALL TRENCH EXCAVATIONS SHALL BE COMPLETED IN ACCORDANCE WITH SUDAS SPECIFICATION SECTION 3010.
 - CONTRACTOR SHALL PROVIDE CLASS 1 CRUSHED STONE ENCASMENT BEDDING ACCORDING TO SUDAS SPECIFICATION 3010.2.02.A FOR ALL SANITARY SEWER UNLESS NOTED OTHERWISE ON THE PLANS.
 - SANITARY SEWERS TO BE PVC TRUSS PIPE (SUDAS 4010.2.01.E) UNLESS NOTED OTHERWISE. SANITARY SEWER SERVICE LINES SHALL BE PVC, SDR 35.3 WITH GASKETED JOINTS (SUDAS 4010.2.04.C).
 - CONTRACTOR TO PROVIDE CLOW "BAND-SEAL" COUPLINGS FOR DISSIMILAR PIPE CONNECTIONS.
 - WATER MAINS SHALL BE DR-18 PVC PIPE, IN COMPLIANCE WITH SUDAS SPECIFICATION SECTION 3010.2.01, UNLESS NOTED OTHERWISE ON THE PLANS.
 - ALL CLASS 52 DIP SHALL BE WRAPPED WITH 8 MIL. POLYETHYLENE WRAP IN COMPLIANCE WITH SUDAS 3010.3.05.
 - #12 AWG SOLID COPPER TRACER WIRE SHALL BE INSTALLED ALONG ENTIRE LENGTH OF NEW WATER MAIN, IN COMPLIANCE WITH SUDAS SPECIFICATION 3010.3.06 AND FIGURE 3010.102. THIN INSULATION IN YELLOW, ORANGE, OR BLUE.
 - SANITARY SEWER TRENCHES SHOWN ON THE PROFILE VIEW SHALL BE BACKFILLED WITH EITHER OF THE FOLLOWING COMPACTED TO 95% STANDARD PROCTOR DENSITY:
 - SUITABLE EXCAVATED MATERIAL. IF EXCAVATED MATERIAL IS NOT SUITABLE, THEN
 - CRUSHED STONE AS SPECIFIED FOR GRANULAR TRENCH BACKFILL SHALL BE USED. *REFER TO SUDAS SPECIFICATION 3010.2.01 FOR UNSUITABLE MATERIAL.*
 - GRANULAR TRENCH BACKFILL SHALL BE CLASS 1 CRUSHED STONE CONFORMING TO SUDAS SPECIFICATION 3010.2.02.A. COMPACT TO 95% STANDARD PROCTOR DENSITY.
 - WATER MAINS WITHIN STREET RIGHT OF WAY OR WITHIN EASEMENTS ADJACENT TO THE STREET RIGHT OF WAY SHALL BE BACKFILLED WITH EITHER OF THE FOLLOWING COMPACTED TO 95% STANDARD PROCTOR DENSITY:
 - SUITABLE EXCAVATED MATERIAL. IF EXCAVATED MATERIAL IS NOT SUITABLE, THEN
 - CRUSHED STONE AS SPECIFIED FOR GRANULAR TRENCH BACKFILL SHALL BE USED.
 - ALL SANITARY SEWER SERVICE LINES CROSSING STREET RIGHT-OF-WAY SHALL BE BACKFILLED IN ACCORDANCE WITH THE PRECEDING NOTE.
 - ALL SANITARY SEWER SERVICE LINES SHALL BE EXTENDED:
 - TO THE UTILITY EASEMENT LINE FOR THOSE LOCATIONS WHERE THE LOTS BEING SERVED ARE ON THE OPPOSITE SIDE OF THE STREET FROM THE SEWER MAIN.
 - TO THE UTILITY EASEMENT LINE FOR THOSE LOCATIONS WHERE THE LOTS BEING SERVED ARE ADJACENT TO THE SEWER MAIN.
 THE FOLLOWING MINIMUM CLEARANCES MUST BE MAINTAINED, ACCORDING TO SUDAS SPECIFICATION 5010.3.07.
 - WATER MAIN SHALL BE LOCATED 10 FEET HORIZONTALLY DISTANT FROM ALL SANITARY SEWER AND STORM SEWER.
 - WATER MAIN SHALL NOT PASS THROUGH NOR CONTACT A SEWER OR A SEWER MANHOLE. A MINIMUM HORIZONTAL SEPARATION OF 3 FEET SHALL BE MAINTAINED.
 - VERTICAL SEPARATION OF WATER MAINS CROSSING OVER ANY SANITARY SEWER SHOULD BE A MINIMUM OF 18-INCHES, MEASURED OUTSIDE OF THE CLOSEST EDGE OF EACH PIPE. IF PHYSICAL CONDITIONS PROHIBIT THIS SEPARATION, THE WATER MAIN SHALL NOT BE PLACED CLOSER THAN 6-INCHES ABOVE A SEWER OR 6-INCHES BELOW A SEWER. THE SEPARATION DISTANCE SHALL BE THE MAXIMUM FEASIBLE IN ALL CASES.
 - WHERE THE WATER MAIN CROSSES SEWER, ONE FULL LENGTH OF WATER PIPE SHALL BE LOCATED SO BOTH JOINTS ARE AS FAR AS POSSIBLE FROM THE SEWER. THE WATER AND SEWER PIPES MUST BE ADEQUATELY SUPPORTED AND HAVE WATER TIGHT JOINTS. A LOW PERMEABILITY SOIL SHALL BE USED FOR BACKFILL MATERIAL WITHIN 10-FEET OF THE POINT OF CROSSING.
 - NOMINAL DEPTH OF WATER MAIN = 5.5 FEET TO TOP OF PIPE.
 - WATER MAIN SHOWN ON PLAN VIEW, AND ALL WATER SERVICE LINES CROSSING STREETS, SHALL BE INSTALLED PRIOR TO PAVING.
 - VIDEO INSPECTION OF ALL SANITARY SEWER MAINS IS REQUIRED PRIOR TO CITY ACCEPTING OWNERSHIP OF THE SYSTEM.
 - ALL SANITARY SEWER AND SERVICE LINES SHALL BE AIR TESTED TO PASS THE FOLLOWING TEST:

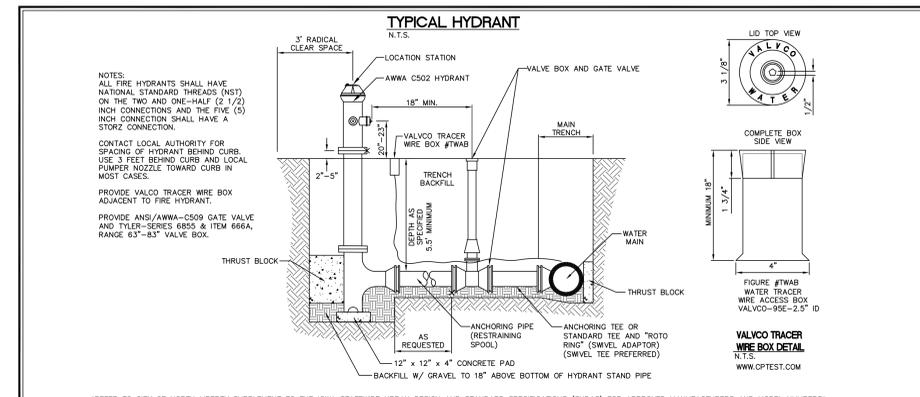
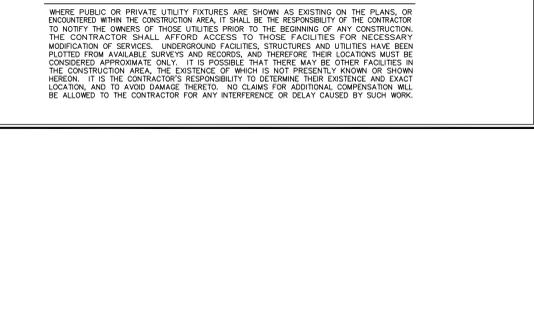
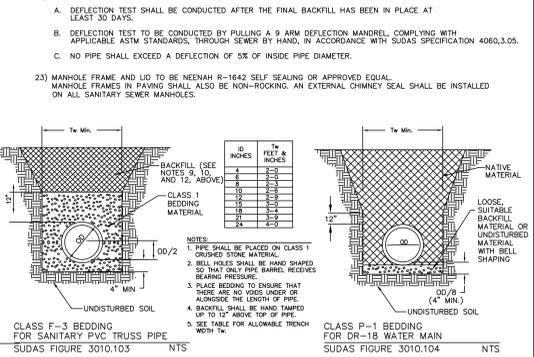
PIPE DIAMETER (INCHES)	TEST PERIOD DURATION (MINUTES)
8	4.0
10	4.0
12	6.0
14	7.0
16	8.5
18	10.0
21	11.5
27	13.0
30	14.0
36	17.0
42	20.0
48	23.0
54	25.5
60	28.5

LOW PRESSURE AIR TESTING (SUDAS 4060.3.04.C)

SUDAS TABLE 4060.02: TEST DURATION

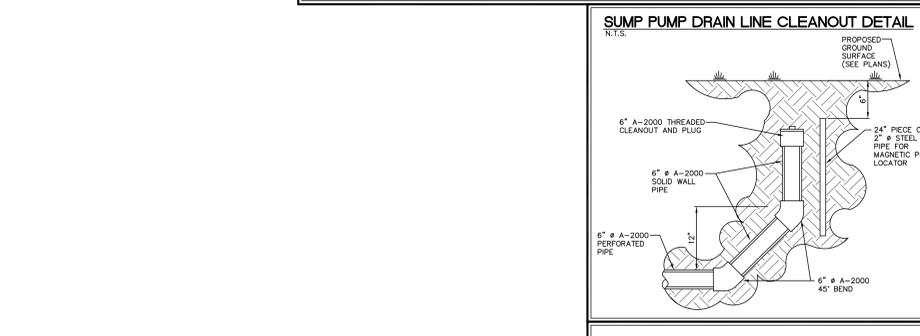
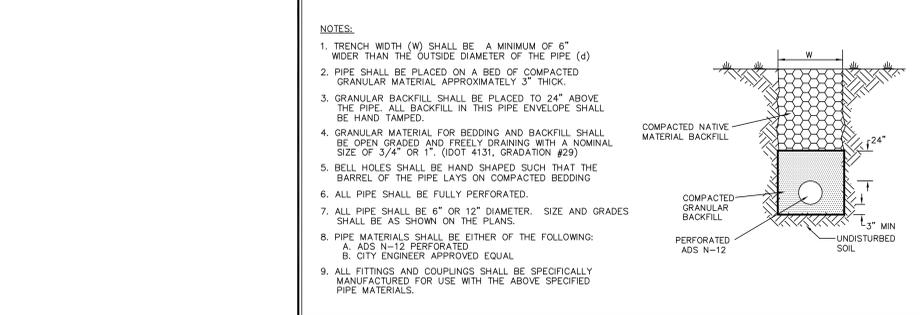
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36	17.0
42	20.0
48	23.0
54	25.5
60	28.5

- ALL PVC TRUSS SEWERS SHALL HAVE A DEFLECTION TEST PERFORMED AS FOLLOWS:
 - DEFLECTION TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS.
 - DEFLECTION TEST TO BE CONDUCTED BY PULLING A 9' ARM DEFLECTION MANDREL, COMPLYING WITH APPLICABLE ASTM STANDARDS, THROUGH SEWER BY HAND, IN ACCORDANCE WITH SUDAS SPECIFICATION 4060.3.05.
 - NO PIPE SHALL EXCEED A DEFLECTION OF 5% OF INSIDE PIPE DIAMETER.
- MANHOLE FRAME AND LID TO BE MENEAH R-1642 SELF SEALING OR APPROVED EQUAL. MANHOLE FRAMES IN PAVING SHALL ALSO BE NON-ROCKING. AN EXTERNAL CHIMNEY SEAL SHALL BE INSTALLED ON ALL SANITARY SEWER MANHOLES.

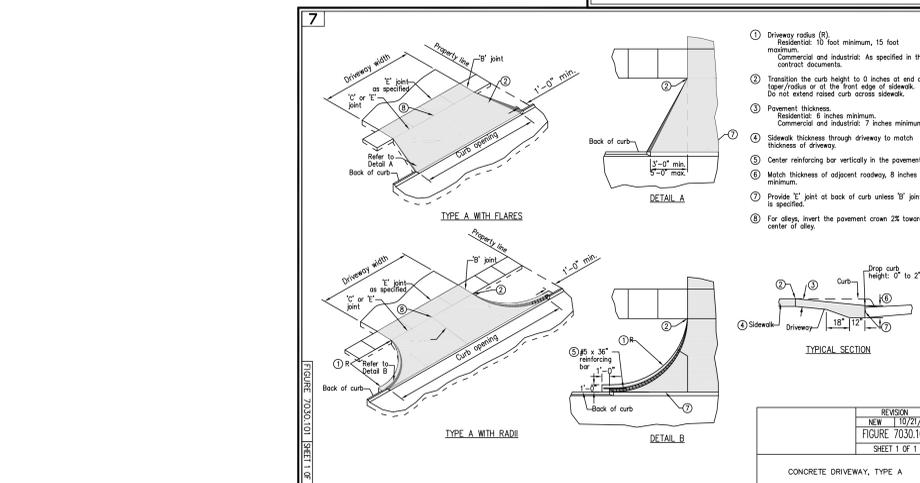


REFER TO CITY OF NORTH LIBERTY SUPPLEMENT TO THE IOWA STATEWIDE URBAN DESIGN AND STANDARD SPECIFICATIONS (SUDAS) FOR APPROVED MANUFACTURERS AND MODEL NUMBERS

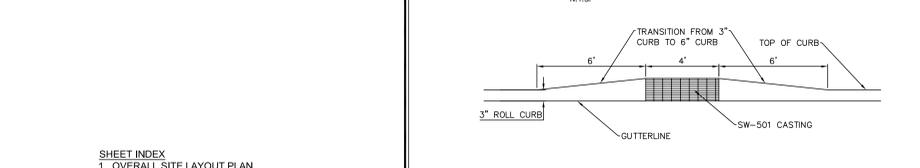
ADS N-12 STORM SEWER DETAIL N.T.S.



SPDL CONNECTION TO INTAKE DETAIL N.T.S. PER SUDAS DETAIL 4040.233



INTAKE CURB TRANSITION DETAIL N.T.S.



- PAVING CONSTRUCTION NOTES
- PAVEMENT CONSTRUCTION SHALL BE IN ACCORDANCE WITH SUDAS SPECIFICATION SECTION 7010-PPC PAVEMENT.
 - A MINIMUM 6" THICK GRANULAR SUBGRADE OF I.D.O.T. GRADATION 12 OR 14 SHALL BE PROVIDED FOR ALL PUBLIC AND PRIVATE STREETS. SUBGRADE SHALL BE IN ACCORDANCE WITH SUDAS SPECIFICATION SECTION 2010.
 - 300 MAX SHALL COMPLY WITH I.D.O.T. CLASS C OR CLASS M MEETING THE REQUIREMENTS OF MATERIALS I.M. 520.
 - PAVEMENT JOINTS SHALL CONFORM TO SUDAS SPECIFICATION SECTION 7010.3.02, J AND K.
 - INSTALL LONGITUDINAL JOINTS AT THE THIRD POINTS OF THE STREET. INSTALL TRANSVERSE JOINTS AT 15 FOOT MAXIMUM SPACING AND EVENLY SPACED BETWEEN OBJECTS IN THE PAVEMENT AND INTERSECTIONS.
 - WHERE PAIRS OF INTAKES ARE LOCATED DIRECTLY ACROSS FROM EACH OTHER OR SLIGHTLY SKewed, INSTALL TRANSVERSE JOINTS BETWEEN CORNERS OF THE THROAT INSERTS AND DIRECTLY ABOVE THE CROSSING STORM SEWER PIPE.
 - SAW JOINTS TO BE COMPLETED WITHIN 24 HOURS OF THE CONCRETE BEING PLACED.
 - NO NEW CONCRETE PAVING SHALL BE OPENED TO VEHICULAR TRAFFIC UNTIL APPROVED BY THE DEVELOPER.

SHEET INDEX
1 OVERALL SITE LAYOUT PLAN
2 GRADING & EROSION CONTROL PLAN AND SWPPP
3 PAVING DETAILS, PROFILE & DIMENSION PLAN
4 PAVING DETAILS, PROFILE & DIMENSION PLAN
5 PAVING DETAILS, PROFILE & DIMENSION PLAN
6 PAVING DETAILS, PROFILE & DIMENSION PLAN
7 SANITARY SEWER PLAN
8 WATERMAIN PLAN
9 STORM SEWER PLAN
10 LANDSCAPE PLAN
11 INTERSECTION DETAILS
12 GENERAL NOTES AND DETAILS

ST. ANDREWS

WATTS GROUP



Front Elevation



Left Elevation



Rear Elevation



Right Elevation

THE MACKINAW

WATTS GROUP



Front Elevation



Left Elevation



Rear Elevation



Right Elevation

THE BEDFORD

WATTS GROUP



Front Elevation



Left Elevation



Rear Elevation



Right Elevation

THE BEDFORD

ELEVATION	WALL FACE	STONE AMOUNT	PERCENTAGE
FRONT	945.3	255.7	27.05%
LEFT	856.3	137.7	16.08%
RIGHT	856.3	137.7	16.08%
REAR	1810.9	652.2	36.02%
TOTALS	4468.8	1183.3	26.48%

ST. ANDREWS

ELEVATION	WALL FACE	STONE AMOUNT	PERCENTAGE
FRONT	1112.1	620.4	55.79%
LEFT	962.7	176.5	18.33%
RIGHT	949.2	169.9	17.90%
REAR	701.6	41.7	5.94%
TOTALS	3725.6	1008.5	27.07%

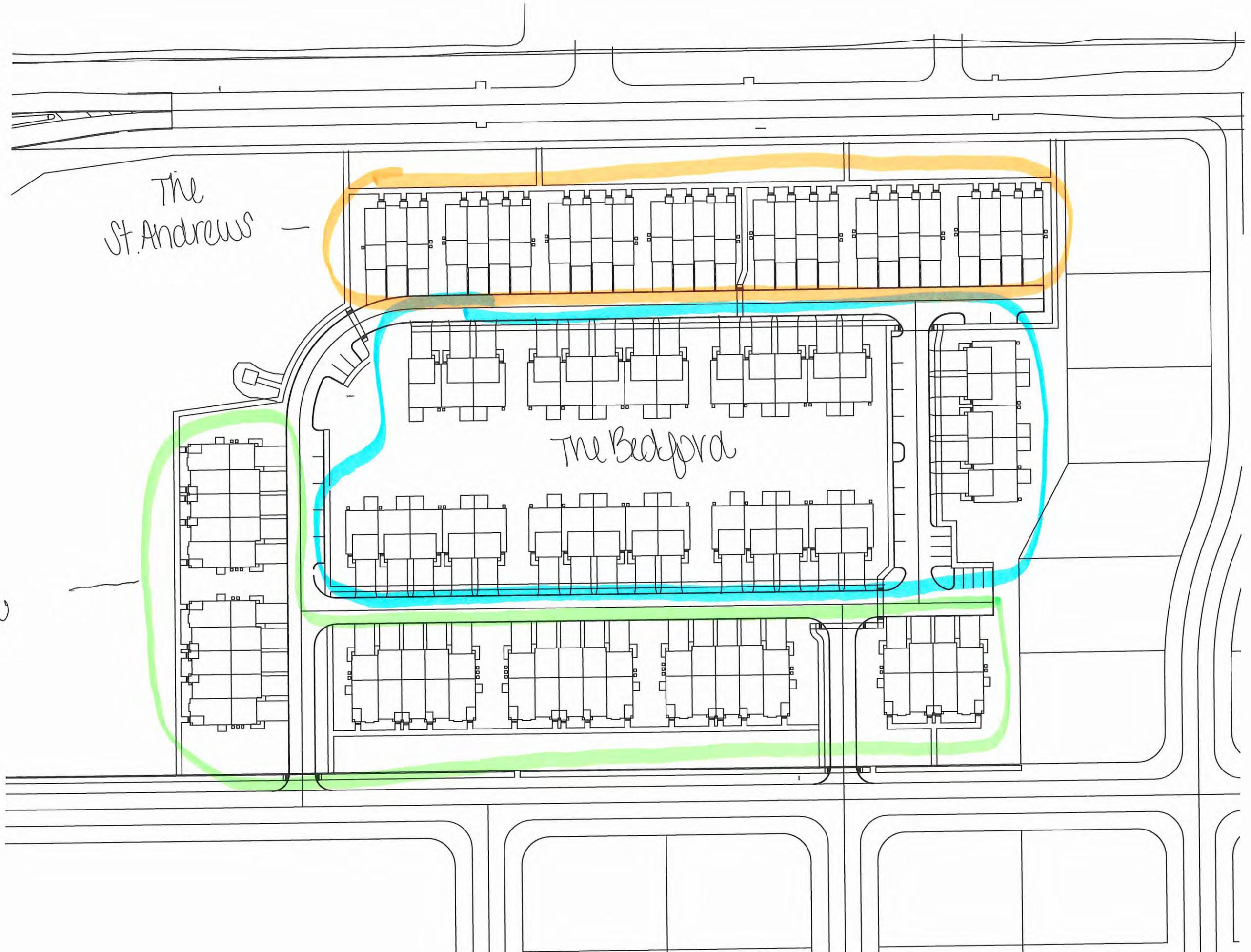
MACKINAW

ELEVATION	WALL FACE	STONE AMOUNT	PERCENTAGE
FRONT	1275	522.5	40.98%
LEFT	781.7	176.7	22.60%
RIGHT	781.7	176.7	22.60%
REAR	672.2	86.7	12.90%
TOTALS	3510.6	962.6	27.42%

The
St. Andrews

The Bedford

The
Mackinaw





Resolution No. 2019-44

**RESOLUTION APPROVING THE DEVELOPMENT SITE PLAN
FOR THE PRESERVE, LOT 1, NORTH LIBERTY, IOWA**

**BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NORTH LIBERTY,
IOWA:**

WHEREAS, the owner and developer, Watts Group Development, Inc., has filed with the City Clerk a development site plan;

WHEREAS, the property is legally described as:

Lot 1 of The Preserve, North Liberty, Iowa in accordance with the Plat thereof, containing 12.86 acres, and subject to easements and restrictions of record;

WHEREAS, said site plan is found to conform with the Comprehensive Plan and the Zoning Ordinance of the City of North Liberty; and

WHEREAS, said site plan has been examined by the North Liberty Planning and Zoning Commission, which recommended that the site plan be approved with no conditions.

NOW, THEREFORE, BE IT RESOLVED that the City Council of North Liberty, Iowa, does hereby approve the development site plan for The Preserve Lot 1, North Liberty, Iowa.

APPROVED AND ADOPTED this 9th day of April, 2019.

CITY OF NORTH LIBERTY:

TERRY L. DONAHUE, MAYOR

ATTEST:

I, Tracey Mulcahey, City Clerk of the City of North Liberty, hereby certify that at a meeting of the City Council of said City, held on the above date, among other proceedings, the above was adopted.

TRACEY MULCAHEY, CITY CLERK