



PLANNING AND ZONING COMMISSION MEETING

Tuesday, July 25, 2023 • 7:00 p.m.

West Branch City Council Chambers, 110 N. Poplar St.

Council Quorum May Be Present

<https://zoom.us/j/829677991> or

dial in phone number 1-312-626-6799 with Meeting ID 829 677 991

1. Call to Order
2. Roll Call
3. Approve Agenda/Move to action.
 - a. Approve minutes from the May 23, 2023 Planning & Zoning Commission meeting. **(not available at time of agenda publication).**
 - b. Accept the resignation of Commission member Jim Hoffman effective immediately.
4. Public Hearing/Non-Consent Agenda. /Move to action.
 - a. Nominate _____ for Secretary of Planning & Zoning to takes minutes of each meeting. / Move to action.
 - b. Motion to review and consider closing a portion of the alley located between N. 4th and N. 5th Streets, West Branch, IA and forward recommendation to the West Branch City Council. / Move to action.
 - c. Discuss the decision of a Special Exception from the Zoning Board of Adjustment meeting on July 20, 2023.
 - d. Review and consider The Meadows Part 3, Lot 4 Site Plan and forward recommendation to the West Branch City Council. / Move to action.
5. Old Business
 - a. Review Chapter 9 - Transportation (West Branch Comprehensive Plan)
 - b. Design Standards
6. City Staff Reports
 - a. LOSST Referendum
 - b. CIP 2023-2028 Updates
 - c. Other Updates
7. Comments from Chair and Commission Members.
8. Next regular Planning & Zoning Commission meeting Tuesday, August 22, 2023.
9. Adjourn

Planning & Zoning Commission Members: Chair John Fuller, Vice Chair Ryan Bowers, Sally Peck, Brad Bower,

Matt Van Scoyoc, Madison Conley, Vacant • **Zoning Administrator:** Terry Goerd

Mayor: Roger Laughlin • **Council Members:** Colton Miller, Nick Goodweiler, Jodee Stoolman, Jerry Sexton, Tom Dean

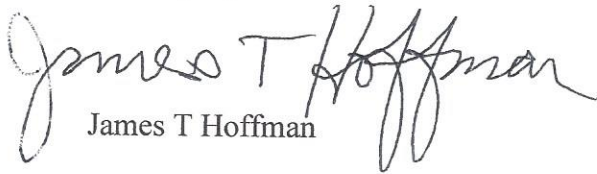
City Administrator: Adam Kofoed **City Clerk:** Leslie Brick • **Fire Chief:** Kevin Stoolman • **Police Chief:** John Hanna

Parks & Rec: Matt Condon • **Public Works Director:** Matt Goodale

Date: 19 July 2023
To: Adam Kofoed
From: James Hoffman
Re: Resignation

Upon reflection and internal strife, please find this letter as my formal resignation from the Planning and Zoning Commission, effective immediately.

Thank you,


James T Hoffman



REQUEST FOR CONSIDERATION

MEETING DATE: July 25, 2023

AGENDA ITEM:	Motion to review and consider closing a portion of the alley located between N. 4 th and N. 5 th Streets, West Branch, IA and forward recommendation to the West Branch City Council.
---------------------	---

PREPARED BY:	Leslie Brick, City Clerk
---------------------	--------------------------

DATE:	July 14, 2023
--------------	---------------

Summary:

At the June 5, 2023 City Council meeting, the topic to close a portion of a nuisance alley was discussed.

As part of the Eastside Water Main Project, the south apron of the alley (where it connects to E. Main Street), is planned for concrete removal and replacement so that the new water main can be placed in the right-of-way. This discovery caused a few of the Council members to re-hash the alley issues and find a resolution to mitigate the nuisance.

After much discussion, the Council decided it was in the City's best interest to vacate a portion of an alley located between North Fourth and North Fifth Street.

Per Chapter 137 – Vacation and Disposal of Streets, section 137.02 (attached), the Council is to forward the proposal to the Planning and Zoning Commission for their study and consideration.

Should the Planning & Zoning Commission approve the Council's desire, a public hearing will be held at a future City Council meeting and affected residents will be notified to gain their input on the matter which would happen in August or early September.

CHAPTER 137

VACATION AND DISPOSAL OF STREETS

137.01 Power to Vacate
137.02 Planning and Zoning Commission
137.03 Notice of Vacation Hearing

137.04 Findings Required
137.05 Disposal of Vacated Streets or Alleys
137.06 Disposal by Gift Limited

137.01 POWER TO VACATE. When, in the judgment of the Council, it would be in the best interest of the City to vacate a street, alley, portion thereof, or any public grounds, the Council may do so by ordinance in accordance with the provisions of this chapter.

(Code of Iowa, Sec. 364.12[2a])

137.02 PLANNING AND ZONING COMMISSION. Any proposal to vacate a street, alley, portion thereof, or any public grounds shall be referred by the Council to the Planning and Zoning Commission for its study and recommendation prior to further consideration by the Council. The Commission shall submit a written report including recommendations to the Council within 30 days after the date the proposed vacation is referred to the Commission.

(Code of Iowa, Sec. 392.1)

137.03 NOTICE OF VACATION HEARING. The Council shall cause to be published a notice of public hearing of the time at which the proposal to vacate shall be considered.

137.04 FINDINGS REQUIRED. No street, alley, portion thereof, or any public grounds shall be vacated unless the Council finds that:

1. **Public Use.** The street, alley, portion thereof, or any public ground proposed to be vacated is not needed for the use of the public, and therefore, its maintenance at public expense is no longer justified.
2. **Abutting Property.** The proposed vacation will not deny owners of property abutting on the street or alley reasonable access to their property.

137.05 DISPOSAL OF VACATED STREETS OR ALLEYS. When in the judgment of the Council it would be in the best interest of the City to dispose of a vacated street or alley, portion thereof or public ground, the Council may do so in accordance with the provisions of Section 364.7, *Code of Iowa*.

(Code of Iowa, Sec. 364.7)

137.06 DISPOSAL BY GIFT LIMITED. The City may not dispose of real property by gift except to a governmental body for a public purpose or to a fair.

(Code of Iowa, Sec. 174.15[2] and 364.7[3])

Cedar County, IA



1 in. = 46 ft.

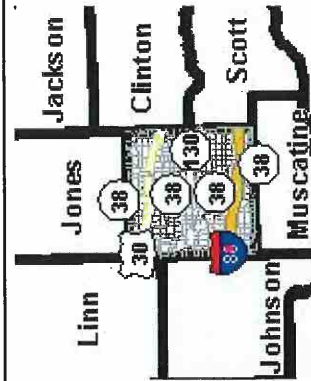
This Cadastral Map is for informational purposes only. It does not purport to represent a property boundary survey of the parcels shown and shall not be used for conveyances or the establishment of property boundaries.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Legend

- Road
 - Interstate
 - US Highway
 - State Numbered Highway
 - <all other values>
- Railroad
- Address Point
- Parcel
- Parcel Number/Acres
- Leased Land
- Land Hook
- Corporate Limit Line
- Park
- Section
- County Boundary

Notes





110 N POPLAR ST, PO BOX 215, WEST BRANCH, IA 52358

SITE PLAN APPLICATION

Applicant Information:

Name: _____

Address: _____
Street or PO Box # City State Zip Code

Phone: _____ Email: _____

Additional Contact:

Name: _____

Phone: _____ Email: _____

Property Owner (if other than applicant):

Name: _____

Address: _____
Street or PO Box # City State Zip Code

Phone: _____ Email: _____

Property Information:

Address (if no address, list name of closest streets): _____

Assessor's Parcel # (Attach Legal Description): _____

Current Zoning: _____

During the review process, the Planning and Zoning Commission or City Staff may visit the property. Please sign here if the property owner does not wish to allow Commission or Staff to enter onto the property.

X _____

Signature of Applicant

Date

Submittal deadline: 14 days prior to next regularly scheduled Planning and Zoning Commission meeting.

Site Plan Application Fee: \$200.00. Special Meeting Request fees are \$150.00 per meeting.

*Additional costs that may be charged include: Public Hearing publishing costs, Engineer and Attorney fees, and mailing costs. Applicant will be billed for additional costs and must be paid before Site Plan Application will proceed.

Include with this application:

- ☐ 1 complete copy of this application form.
- ☐ Detailed Site Plan – The site plan shall contain all the information required by Sections 173.04 and 173.06 unless otherwise waived by the Zoning Administrator. Submit 5 copies of site plan and associated documents, no larger than 11 x 17 or email Acrobat “PDF” files of all materials to leslie@westbranchiowa.org for distribution.
- ☐ Other information deemed necessary by the City Staff for the review of the proposed project

For Staff Use:

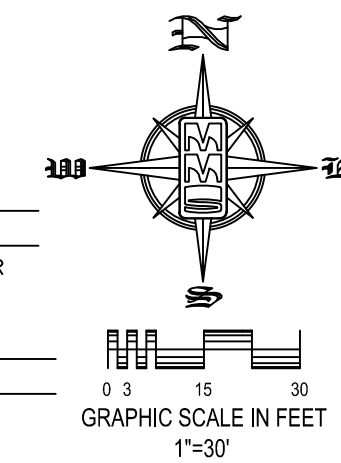
- _____ Date application received - includes detailed site plan
- _____ Date complete application forwarded to Planning & Zoning Commission, Mayor, City Council, City Engineer , City Attorney, Fire Chief, Public Works Director and Zoning Administrator
- _____ Date of Pre-application conference
- _____ Date comments / recommendations received from City Engineer
- _____ Date comments / recommendations received from Zoning Administrator
- _____ Date of next Planning & Zoning Commission meeting, application must be received at least 14 days prior to the P & Z meeting
- _____ Date of second Planning & Zoning Commission meeting
- _____ Date Planning & Zoning approved Site Plan
- _____ Date of City Council meeting to approve Site Plan (approved by Planning & Zoning)
- _____ Action taken by City Council Approve Deny
- _____ Date applicant notified of City Council decision

Miscellaneous Information:

Signature of City Official

Date

SUBDIVER'S ATTORNEY
KIRSTEN H. FREY
327 2ND STREET SUITE 300
CORALVILLE, IA 52241



LOT 4, THE MEADOWS SUBDIVISION - PART THREE, IN WEST BRANCH, CEDAR COUNTY, IOWA, IN ACCORDANCE WITH THE RECORDED PLAT THEREOF, CONTAINING 3.78 ACRES AND SUBJECT TO EASEMENTS AND RESTRICTION OF RECORD.

ZONING: RB-1	
SQUARE FOOTAGE:	164,573 SF COMMERCIAL
PROPOSED USE:	COMMERCIAL

LOT 4, THE MEADOWS SUBDIVISION - PART THREE IS TO BE A 3.78 ACRE PARCEL. THE PLAN WILL CONSIST OF 1 (ONE) PROPOSED ASSISTED LIVING FACILITY. THE ASSISTED LIVING FACILITY IS ESTIMATED TO HAVE 12 FULL TIME EMPLOYEES AND 13 PART TIME EMPLOYEES.

APPLICANT PLANS TO BEGIN CONSTRUCTION ON FALL 2023, WITH AN ESTIMATED COMPLETION DATE IN FALL 2024.

TOTAL LOT AREA	164,573 S.F. (100%)
PROPOSED BUILDING AREA	36,927 S.F. (22.4%)
PROPOSED PAVING AREA	36,985 S.F. (22.5%)
TOTAL IMPERVIOUS AREA	73,912 S.F. (44.9%)
TOTAL OPEN AREA	90,661 S.F. (55.1%)

FRONT YARD SETBACK	(MEADOWS PLACE) 25 FEET (CEDAR JOHNSON ROAD) 25 FEET (WEST MAIN STREET) 25 FEET
SIDE YARD SETBACK	10 FEET

1 SPACE PER UNIT/ 43 UNITS = 43 SPACES
10 / 1,000 SF OF GFA FOR MULTIPURPOSE BUILDINGS


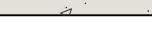
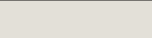
TOTAL PARKING REQUIRED = 43 SPACES
TOTAL PARKING PROVIDED = 60 SPACES

☼ LITHONIA LIGHTING RSX2 LED P2 40K R3S HS
☼ LITHONIA LIGHTING WPX0 LED ALO SWW2 MVOLT

KEYNOTE#	KEYNOTE	DETAIL
1	INSTALL PARKING (SEE PAVING LEGEND TABLE THIS SHEET FOR THICKNESS AND MATERIAL)	
2	INSTALL DRIVEWAY (SEE PAVING LEGEND TABLE THIS SHEET FOR THICKNESS AND MATERIAL)	
3	INSTALL STANDARD 6" CURB AND GUTTER	
4	INSTALL ADA PARKING, SYMBOL, BOLLARD W/ SIGNAGE	
5	INSTALL 4" PCC SIDEWALK	
6	REMOVE EXISTING CURB AND GUTTER SECTION AND CONNECT TO EXISTING PCC PAVING	
7	INSTALL 4" WIDE PAVEMENT MARKINGS (TYP)	
8	INSTALL ADA RAMP	
9	INSTALL THICKENED EDGE SIDEWALK	
10	LOADING SPACE	
11	DUMPSTER LOCATION	
12	INSTALL LIGHT POLE	

C120 SITE LAYOUT AND DIMENSION PLAN
C140 SWPPP AND EROSION CONTROL PLAN
C141 DETAILED GRADING PLAN
C160 UTILITY PLAN
C500 GENERAL NOTES AND DETAILS
L100 LANDSCAPE PLAN

SURVEY CONTROL				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
200	616079.013	2223336.734	782.780	5/8" REBAR WITH RED PLASTIC CAP LOCATED 33 FEET EAST OF CENTERLINE OF CEDAR JOHNSON ROAD AND 50.6 FEET NORTH OF CENTERLINE OF W MAIN STREET
201	615952.509	2223306.697	785.796	5/8" REBAR WITH RED PLASTIC CAP LOCATED ON THE CENTERLINE OF CEDAR JOHNSON ROAD APPROXIMATELY 41.3 FEET SOUTH OF INTERSECTION WITH W MAIN STREET
203	616782.22	2223320.74	759.839	PIPE FOUND APPROXIMATELY 31.18 FEET EAST OF CEDAR JOHNSON ROAD AND DIRECTLY ON NORTHERN BOUNDARY OF THE MEADOWS SUBDIVISION PART THREE
205	616521.19	2224136.24	741.913	PIPE FOUND APPROXIMATELY 33.9 FEET EAST AND 29.1 FEET NORTH OF NORTHEASTERN BOUNDARY OF THE MEADOWS SUBDIVISION PART THREE

PAVEMENT LEGEND	MATERIAL	TOTAL*
	7" PCC OVER 6" GRANULAR SUBBASE	1,953 SY
	6" PCC OVER 6" GRANULAR SUBBASE	1,345 SY
	4" PCC	938 SY

*TOTALS INCLUDE ALL SF OF MATERIAL, INCLUDING OUTSIDE OF PROPERTY LINE

1. PAVEMENT CONSTRUCTION SHALL BE IN ACCORDANCE WITH I.D.O.T. SPECIFICATION SECTION 2301.
2. I.D.O.T. CLASS C-3 CONCRETE SHALL BE USED, UNLESS NOTED OTHERWISE.
3. PAVEMENT JOINTS SHALL CONFORM TO I.D.O.T. STANDARD ROAD PLAN PV-101.
4. SUBGRADE UNDER PROPOSED PAVEMENT SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY, TO A DEPTH OF SIX (6) INCHES, UNLESS NOTED OTHERWISE.
5. ALL SAWED PAVEMENT JOINTS SHALL BE SEALED.

-----	-----	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, PARTIAL OR BY DEED
-----	-----	PROPOSED EASEMENT LINES
-----	-----	EXISTING EASEMENT LINES
-----	-----	BENCHMARK
-----	-----	RECORDED DIMENSIONS
-----	-----	CURB SEGMENT NUMBER
(22-1)		
-EXIST-	-PROP-	
		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
		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
		EXISTING TREE LINE
		EXISTING DECIDUOUS TREE & SHRUB
		EXISTING EVERGREEN TREE & 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.

THE CONTRACTOR SHALL NOTIFY IOWA ONE CALL AT 811 OR 800/292-8989 NO LESS THAN 48 HRS. IN ADVANCE OF ANY DIGGING OR EXCAVATION.

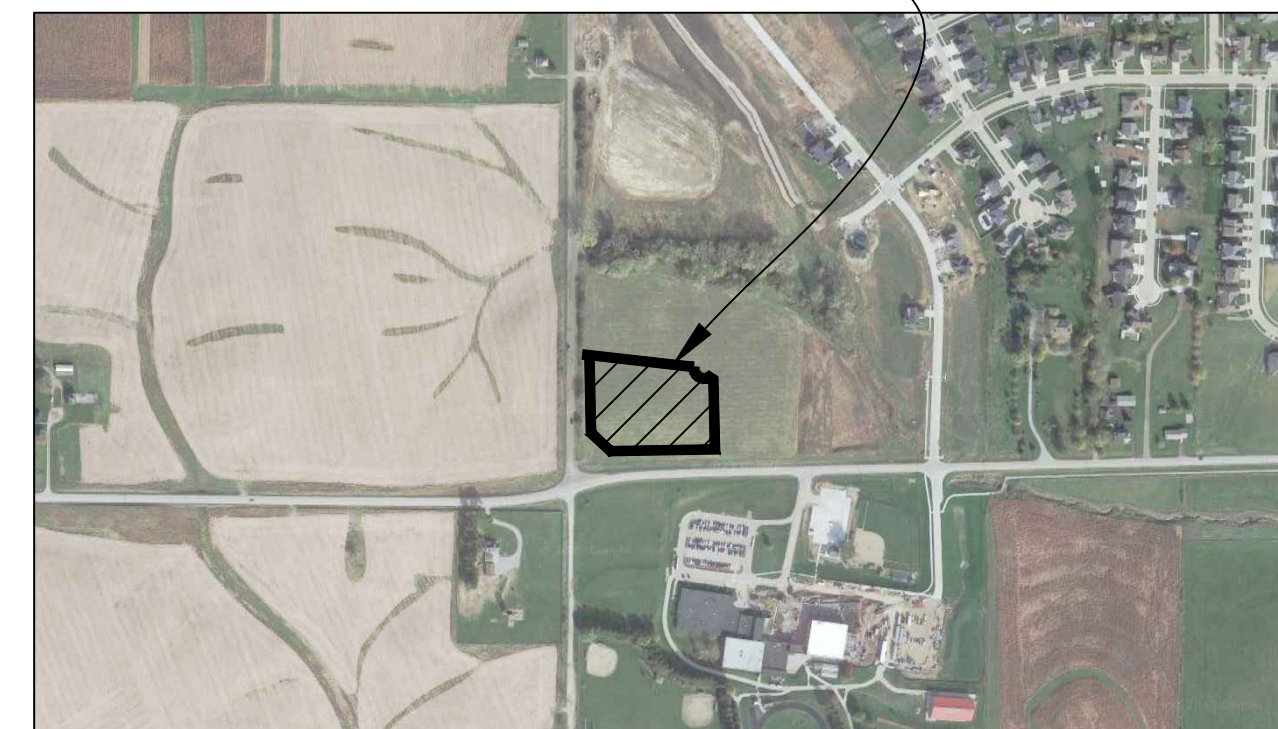
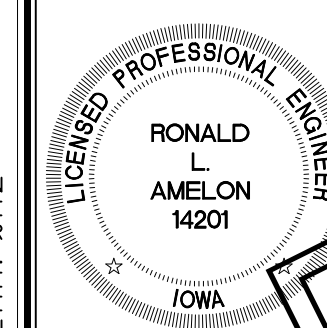
WHERE PUBLIC UTILITY TURES ARE SHOWN AS EXISTING ON THE PLANS OR ENTERED WITHIN THE CONSTRUCTION AREA, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNERS OF THOSE UTILITIES PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. THE CONTRACTOR SHALL AFFORD ACCESS TO THESE FACILITIES FOR NECESSARY MODIFICATION OF SERVICES. THE LOCATION AND DEPTH OF ALL UTILITIES SHALL BE DETERMINED BY THE CONTRACTOR'S SURVEYS AND RECORDS, AND THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE. ONLY IF 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 TO THE MAXIMUM EXTENT POSSIBLE. NO DELAY IN COMMENCING WORK SHALL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.

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.

RONALD L. AMELON, P.E. Iowa Lic. No. 14201

Pages or sheets covered by this seal:

SEA



LOCATION MAP
NOT TO SCALE

WEST MAIN STREET



CIVIL ENGINEERS
LAND PLANNERS
LAND SURVEYORS
LANDSCAPE ARCHITECTS
ENVIRONMENTAL SPECIALISTS

1917 S. GILBERT ST.
IOWA CITY, IOWA 52240
(319) 351-8282
www.mmsconsultants.net

Date	Revision
07/12/23	PER CITY REVIEW -RLC

SWPPP AND EROSION CONTROL PLAN

LOT 4, THE MEADOWS
SUBDIVISION -
PART THREE
WEST BRANCH
CEDAR COUNTY
IOWA

MMS CONSULTANTS, INC.

Date: 06-30-23

Designed by: RLA Field Book No: FIELDBOOK

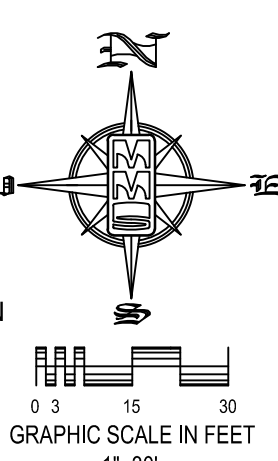
Drawn by: ADP Scale: 1"=30'

Checked by: RLA Sheet No:

Project No: C140

11770-001 of: 6

SHEET INDEX
C120 SITE LAYOUT AND DIMENSION PLAN
C140 SWPPP AND EROSION CONTROL PLAN
C141 DETAILED GRADING PLAN
C160 UTILITY PLAN
C500 GENERAL NOTES AND DETAILS
L100 LANDSCAPE PLAN



GRADING AND EROSION CONTROL NOTES

TOTAL SITE AREA: 3.78 ACRES
TOTAL AREA TO BE DISTURBED: 3.78 ACRES

EROSION CONTROL MEASURES SHOWN 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 PERMETER 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.

NOTES:

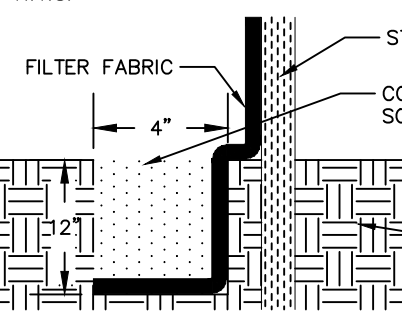
1. TEMPORARY STABILIZATION IS REQUIRED ON DISTURBED AREAS AFTER THE 14TH DAY OF INACTIVITY.
2. FINAL STABILIZATION SHALL BE IMPLEMENTED WITHIN 14 DAYS OF FINAL GRADING COMPLETION.

UTILITIES

THE CONTRACTOR SHALL NOTIFY IOWA ONE CALL AT 811 OR 800/292-8889 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 THERETO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.

SILT FENCE DETAIL



- INSTALLATION**
1. POSTS SHALL BE 1.33 POUNDS PER LINEAL FOOT STEEL WITH A MINIMUM LENGTH OF 5 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 419.01.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 SPICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6" OVERLAP, AND SECURELY SEALED.
 4. POSTS 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".
 5. 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.
 6. THE TRENCH SHALL BE BACK FILLED WITH EXCAVATED MATERIAL AND THOROUGHLY COMPACTED.
- MAINTENANCE**
1. SILT FENCES SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL 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. 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.
 3. 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 SEEDED.
 4. 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.

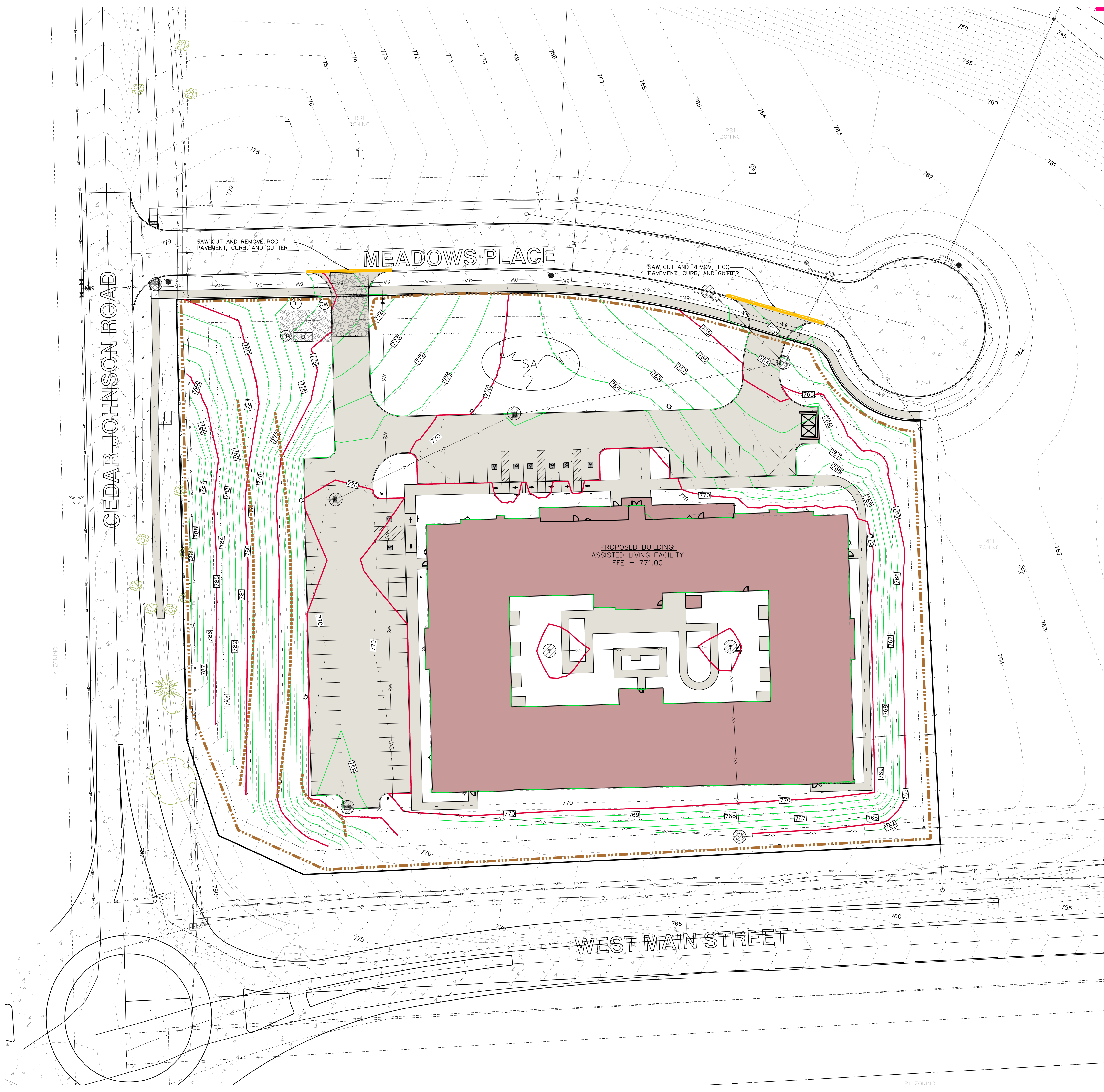
GRADING NOTES

- 1.) MAXIMUM SLOPE ON CUTS AND FILLS SHALL BE 3.5: HORIZONTAL TO 1: VERTICAL.
- 2.) NO EXCAVATION SHALL BE ALLOWED WITHIN 2' OF PROPERTY LINES.
- 3.) WHERE HEIGHT OF FILL IS GREATER THAN 30' AN INTERMEDIATE TERRACE OF AT LEAST 6' WIDE SHALL BE ESTABLISHED AT MID HEIGHT. SEE TYPICAL FILL SECTION.
- 4.) COMPACTION TO BE 95% STANDARD PROCTOR WHERE > 6:1 SLOPE.
- 5.) ALL TREES OUTSIDE THE LIMITS OF GRADING OPERATIONS SHALL BE SAVED, UNLESS OTHERWISE INDICATED TO BE REMOVED. TREES NEAR THE EDGES OF GRADING LIMITS AND IN THE STORM WATER DETENTION BASIN AREAS SHALL BE SAVED IF POSSIBLE, WITHIN THE REQUIREMENTS OF THE SPECIFICATIONS.
- 6.) PRIOR TO ANY GRADING A CONSTRUCTION SAFETY FENCE SHALL BE INSTALLED 50 FEET FROM TRUNKS OF TREES TO BE PROTECTED.
- 7.) STABILIZATION SEEDING SHALL BE COMPLETED AS SOON AS POSSIBLE, BUT NOT MORE THAN 14 DAYS, UPON COMPLETION OF GRADING IN ANY AREA OF GRADING OPERATIONS. DISTURBED AREAS SHALL BE KEPT AS SMALL AS POSSIBLE TO PREVENT LARGE SCALE EROSION PROBLEMS. IF THE GRADING CONTRACTOR STOPS GRADING OPERATIONS FOR MORE THAN 14 DAYS, THEN STABILIZATION SEEDING SHALL BE DONE ON ALL DISTURBED AREAS.
- 8.) SILT FENCE LOCATIONS AND LENGTHS, AS INDICATED, ARE APPROXIMATE ONLY. FINAL LOCATIONS AND LENGTHS WILL BE DETERMINED, AS NEEDED, UPON COMPLETION OF GRADING OPERATIONS IN AN AREA.
- 9.) ALL STREET SUBGRADES SHALL BE CONSTRUCTED AND COMPACTED IN ACCORDANCE WITH SUDAS DESIGN AND CONSTRUCTION STANDARDS AND PROCEDURES.

EROSION CONTROL LEGEND

- | | |
|--|---------------------------------|
| FINAL FILTER SOCK | PERIMETER SILT FENCE |
| 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 | DUMPSTER 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: 03 | |

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 BLANKS 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.





CIVIL ENGINEERS
LAND PLANNERS
LAND SURVEYORS
LANDSCAPE ARCHITECTS
ENVIRONMENTAL SPECIALISTS

1917 S. GILBERT ST.
IOWA CITY, IOWA 52240
(319) 351-8282
www.mmsconsultants.net

Date	Revision
07/12/23	PER CITY REVIEW -RLC

DETAILED GRADING PLAN

LOT 4, THE MEADOWS
SUBDIVISION -
PART THREE
WEST BRANCH
CEDAR COUNTY
IOWA

MMS CONSULTANTS, INC.

Date: 06-30-23

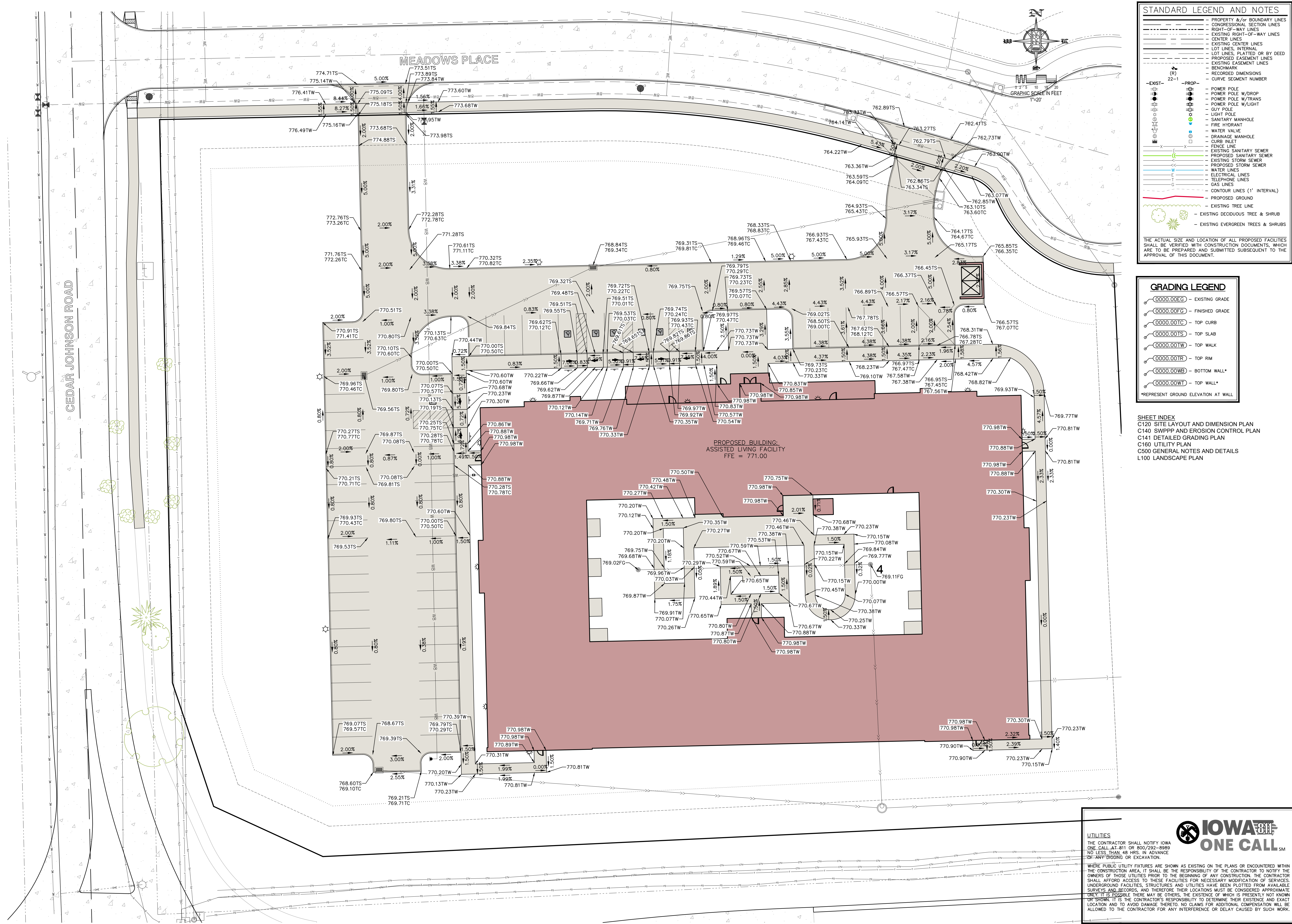
Designed by: RLA Field Book No: FIELDBOOK

Drawn by: ADP Scale: 1"=20'

Checked by: RLA Sheet No:

Project No: C141

11770-001 of 6



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
---	22-1
---	PROP
---	EXIST
---	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
---	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
---	EXISTING TREE LINE
---	EXISTING DECIDUOUS TREE & SHRUB
---	EXISTING EVERGREEN TREES & SHRUBS

GRADING LEGEND	
---	EXISTING GRADE
---	FINISHED GRADE
---	TOP CURB
---	TOP SLAB
---	TOP WALK
---	TOP RIM
---	BOTTOM WALL*
---	TOP WALL*
*REPRESENT GROUND ELEVATION AT WALL	

SHEET INDEX
C120 SITE LAYOUT AND DIMENSION PLAN
C140 SWPPP AND EROSION CONTROL PLAN
C141 DETAILED GRADING PLAN
C160 UTILITY PLAN
C500 GENERAL NOTES AND DETAILS
L100 LANDSCAPE PLAN

UTILITIES
THE CONTRACTOR SHALL NOTIFY IOWA ONE CALL AT 811 OR 800/292-8989 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 CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.

IOWA ONE CALL



CIVIL ENGINEERS
LAND PLANNERS
LAND SURVEYORS
LANDSCAPE ARCHITECTS
ENVIRONMENTAL SPECIALISTS

1917 S. GILBERT ST.
IOWA CITY, IOWA 52240
(319) 351-8282
www.mmsconsultants.net

Date	Revision
07/12/23	PER CITY REVIEW -RLC

UTILITY PLAN

LOT 4, THE MEADOWS
SUBDIVISION -
PART THREE
WEST BRANCH
CEDAR COUNTY
IOWA

MMS CONSULTANTS, INC.

Date: 06-30-23

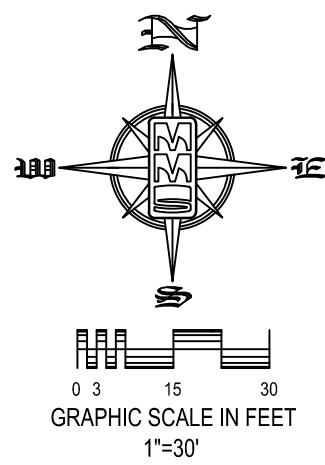
Designed by: RLA Field Book No: FIELDBOOK

Drawn by: ADP Scale: 1"=30'

Checked by: RLA Sheet No:

Project No: C160

11770-001 of 6



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
- 22-1
- EXIST- POWER POLE
 - EXIST- POWER POLE W/DROP
 - EXIST- POWER POLE W/TRANS
 - EXIST- POWER POLE W/LIGHT
 - EXIST- GUY POLE
 - EXIST- LIGHT POLE
 - EXIST- SANITARY MANHOLE
 - EXIST- FIRE HYDRANT
 - EXIST- WATER VALVE
 - EXIST- DRAINAGE MANHOLE
 - EXIST- CURB INLET
 - EXIST- FENCE LINE
 - EXIST- EXISTING SANITARY SEWER
 - EXIST- PROPOSED SANITARY SEWER
 - EXIST- EXISTING STORM SEWER
 - EXIST- PROPOSED STORM SEWER
 - EXIST- WATER LINES
 - EXIST- ELECTRICAL LINES
 - EXIST- TELEPHONE LINES
 - EXIST- GAS LINES
 - EXIST- CONTOUR LINES (1' INTERVAL)
 - EXIST- PROPOSED GROUND
 - EXIST- EXISTING TREE LINE
 - EXIST- EXISTING DECIDUOUS TREE & SHRUB
 - EXIST- 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.

SHEET INDEX
C120 SITE LAYOUT AND DIMENSION PLAN
C140 SWPPP AND EROSION CONTROL PLAN
C141 DETAILED GRADING PLAN
C160 UTILITY PLAN
C500 GENERAL NOTES AND DETAILS
L100 LANDSCAPE PLAN

UTILITIES

THE CONTRACTOR SHALL NOTIFY IOWA ONE CALL AT 811 OR 800/292-8889 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 THERETO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.





CIVIL ENGINEERS
LAND PLANNERS
LAND SURVEYORS
LANDSCAPE ARCHITECTS
ENVIRONMENTAL SPECIALISTS

1917 S. GILBERT ST.
IOWA CITY, IOWA 52240
(319) 351-8282
www.mmsconsultants.net

Date	Revision
07/12/23	PER CITY REVIEW -RLC

GENERAL NOTES AND DETAILS

LOT 4, THE MEADOWS
SUBDIVISION -
PART THREE
WEST BRANCH
CEDAR COUNTY
IOWA

MMS CONSULTANTS, INC.

Date: 06-30-23

Designed by: RLA Field Book No: FIELDBOOK

Drawn by: ADP Scale: Sheet No:

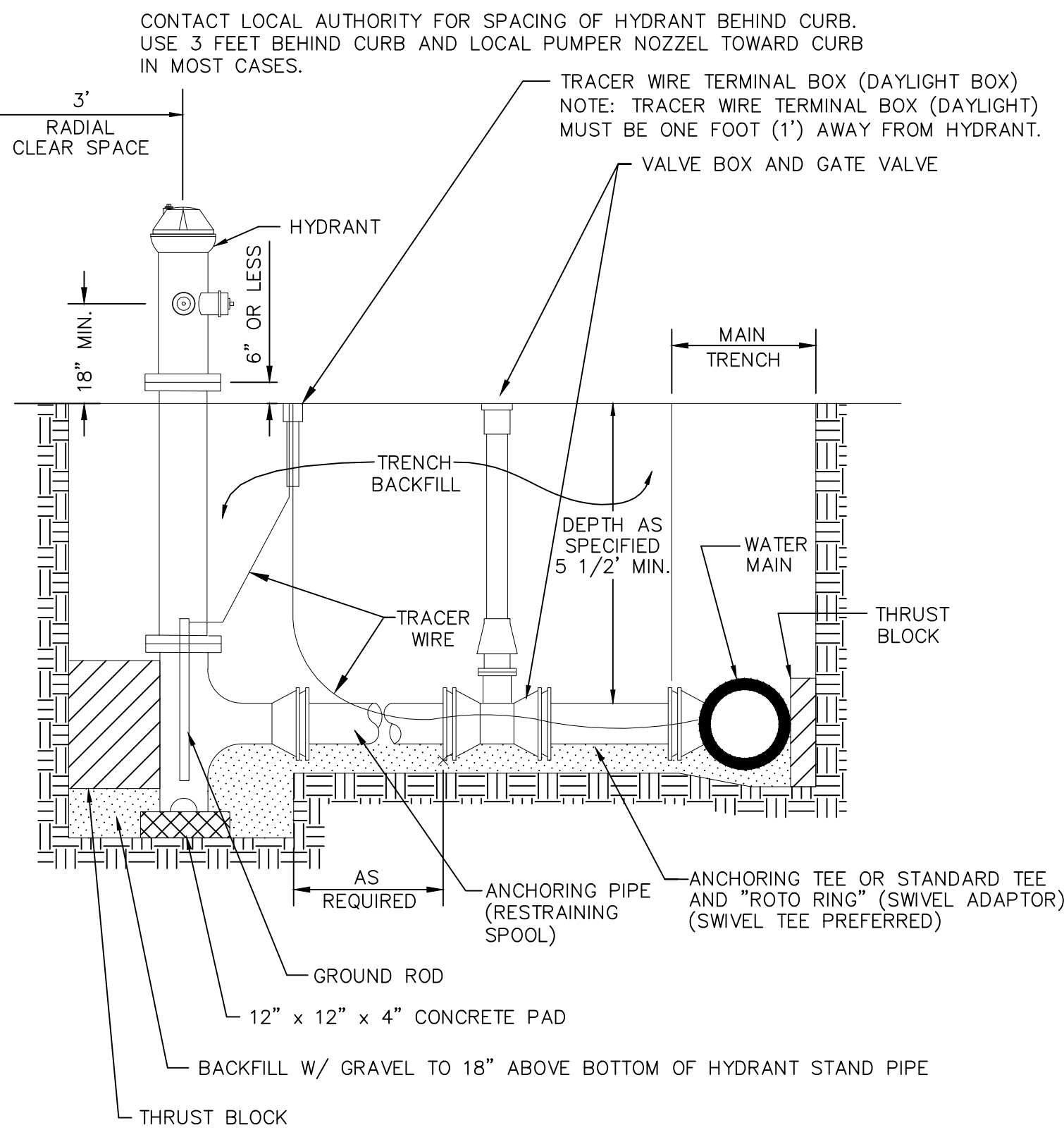
Checked by: RLA

Project No: C500

11770-001 of 6

TYPICAL HYDRANT

N.T.S.

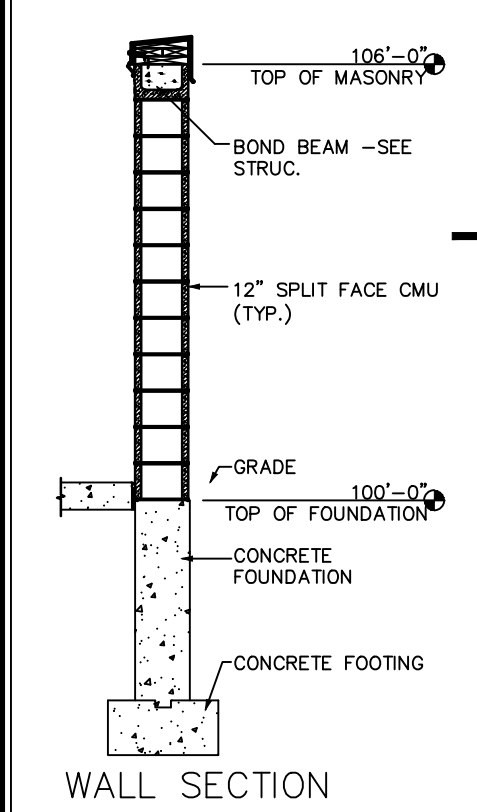


HYDRANT ASSEMBLIES SHALL HAVE THREE NOZZLES (TWO 2 1/2" AND ONE 4 1/2" PUMPER NOZZLE). PUMPER NOZZLE SHALL BE STORZ STYLE. OPERATING UNIT SHALL BE TAPERED 11/16" TO 3/4" SQUARE NUT, OPENING RIGHT (CLOCKWISE).

TRASH ENCLOSURE DETAIL

N.T.S.

NOTE: DUMPSTER ENCLOSURE SHALL BE CONSTRUCTED WITH MATERIALS CONSISTENT WITH THOSE USED ON THE BUILDINGS AND IN ACCORDANCE WITH CITY STANDARDS.



SANITARY SEWER AND WATERMAIN NOTES

- SANITARY SEWER & WATER MAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS) SPECIFICATIONS (2018) AS AMENDED.
- SANITARY SEWERS SHALL BE PVC TRUSS PIPE (SUDAS 4010.2.0.1E), CONTECH A-2000, OR CITY ENGINEER APPROVED EQUAL, AS NOTED ON THE PLANS. SANITARY SEWER SERVICE LINES SHALL BE PVC SDR-23.5 WITH GASKETED JOINTS.
- WATER MAINS SHALL BE DR-18 PVC PIPE.
- CONTRACTOR TO PROVIDE FERNCO STRONG BACK RC 1000 SERIES COUPLINGS FOR DISSIMILAR PIPE CONNECTIONS.
- GRANULAR TRENCH BACKFILL SHALL BE CRUSHED STONE CONFORMING TO I.D.O.T. STANDARD SPECIFICATION 4120.04 WITH 1" MAXIMUM AGGREGATE SIZE. COMPACT TO 90% MODIFIED PROCTOR DENSITY.
- ALL SANITARY SEWERS SHOWN ON THE PROFILE VIEW AND ALL SANITARY SEWERS AND WATER MAINS UNDER PAVING OR WITHIN 5 FEET OF PAVEMENT SHALL BE BACKFILLED WITH EITHER OF THE FOLLOWING COMPACTED TO 90% MODIFIED PROCTOR DENSITY:
 - SUITABLE EXCAVATED MATERIAL. IF EXCAVATED MATERIAL IS NOT SUITABLE, THEN
 - CRUSHED STONE AS SPECIFIED FOR GRANULAR TRENCH BACKFILL.
- ALL SANITARY SEWER SERVICE LINES CROSSING STREET RIGHT-OF-WAY SHALL BE BACKFILLED IN ACCORDANCE WITH THE PRECEDING NOTE.
- CONTRACTOR SHALL PROVIDE SUDAS CLASS F-3 BEDDING FOR ALL PVC TRUSS SANITARY SEWERS UNLESS OTHERWISE NOTED.
- ENTRY INTO EXISTING CITY MANHOLE TO BE BY CORE DRILL AND SEAL BY "LINK-SEAL" PENETRATION SEAL OR CITY ENGINEER APPROVED EQUAL.
- ALL MANHOLES TO BE TURNED OVER TO CITY SHALL:
 - WILL NOT SHOW STEPS.
 - WILL HAVE EXTERNAL CHIMNEY SEAL BY INFISHIELD UNIBAND, CRETEX, OR APPROVED EQUAL.
 - WILL HAVE MANHOLE FRAME AND LID TO BE NEENAH R-1642 SELF-SEALING WITH CITY LOGO.
 - WILL HAVE RISERS RINGS OF CRETEX PRO-RING, AMERICAN HIGHWAY PRODUCTS RUBBER ADJUSTMENT RING OR STANDARD PCC. IF PCC RINGS ARE USED, SHIMS TO LEVEL MANHOLE FRAME MADE OF MATERIALS OTHER THAN PCC OR THE RING MATERIAL DISCUSSED ABOVE WILL NOT BE ALLOWED, I.E. WOOD, BRICK, ROCKS, ETC.
 - WILL USE LINK-SEALS PENETRATION SEALS FOR PIPE PENETRATIONS.

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 END OF ALL SANITARY SEWER SERVICES MUST BE MARKED WITH A WOOD 2 x 4 PAINTED GREEN.
- ALL SANITARY SEWER MANHOLES IN PAVING AREAS OR AREAS SUBJECT TO WATER INUNDATION SHALL BE PROVIDED WITH CRETEX EXTERIOR CHIMNEY SEAL OR APPROVED EQUAL. ALL SANITARY MANHOLES IN PAVING SHALL HAVE 3-PIECE FLOATING CASTING

AIR TESTING

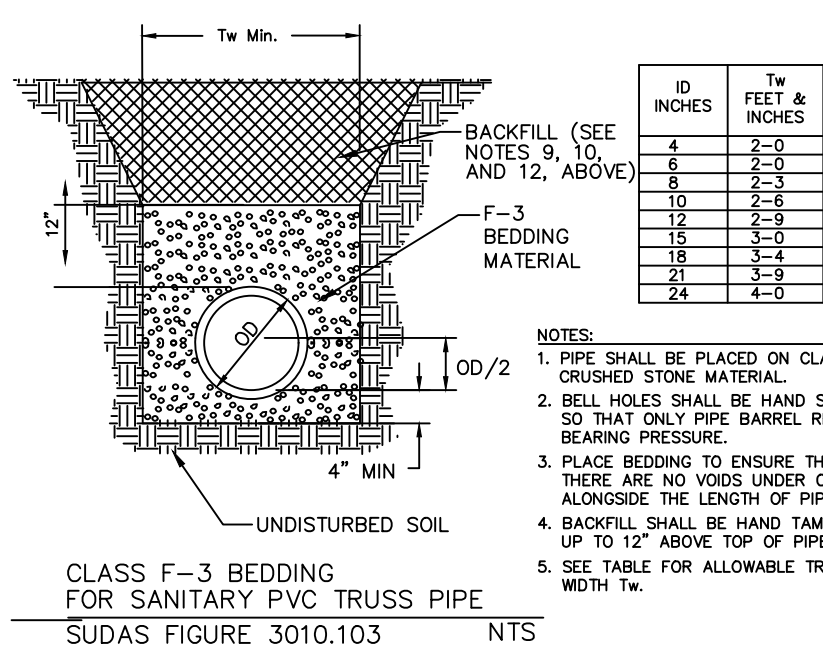
- ALL SANITARY SEWER AND SERVICE LINES SHALL BE AIR TESTED TO PASS THE FOLLOWING TEST:

NOTE: CITY REPRESENTATIVE MUST BE PRESENT DURING TESTING.

 - PERFORM FROM MANHOLE-TO-MANHOLE AFTER BACKFILL.
 - PLACE PNEUMATIC PLUGS: (1) SEALING LENGTH: EQUAL TO OR GREATER THAN PIPE DIAMETER, (2) CAPABLE OF RESISTING INTERNAL TEST PRESSURE WITHOUT EXTERNAL BRACING OR BLOCKING.
 - INTRODUCE LOW-PRESSURE AIR INTO SEALED LINE AND ACHIEVE INTERNAL AIR PRESSURE OF 5 psf & MAINTAIN FOR A MINIMUM OF 5 MINUTES.
 - LIMIT INTERNAL PRESSURE IN SEALED LINE BELOW 8 PSIG.
 - ALLOW 2 MINUTES MINIMUM FOR AIR PRESSURE TO STABILIZE. DISCONNECT LOW-PRESSURE AIR HOSE FROM CONTROL PANEL.
 - MINIMUM TIME FOR PRESSURE TO DROP FROM 3.5 TO 2.5 PSIG GREATER THAN MAXIMUM PRESSURE EXERTED BY GROUNDWATER ABOVE PIPE INVERT:

PIPE DIAMETER IN INCHES	TIME IN MINUTES
4	2.0
6	3.0
8	4.0
10	5.0
12	5.5
15	7.5

 - IN AREAS WHERE GROUND WATER IS KNOWN TO EXIST, THE HEIGHT OF WATER ABOVE THE TOP OF THE PIPE BEING TESTED, IN FEET, SHALL BE DETERMINED AND THAT HEIGHT DIVIDED BY 2.3 TO ESTABLISH THE PRESSURE THAT WILL BE ADDED TO ALL READINGS ABOVE. ALTERNATIVELY, THE ENGINEER MAY ALLOW THE CONTRACTOR TO MEASURE INFILTRATION INTO THE SEWER BY USING A V-NOTCH WEIR OR OTHER SUITABLE DEVICE.
 - LOCATE, REPAIR AND RETEST LEAKS.
- AIR TESTING SHALL BE CONSIDERED INCIDENTAL TO SANITARY SEWER CONSTRUCTION.
- 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 USING A RIGID BALL OR MANDREL WITH A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. NO MECHANICAL PULLING DEVICES ALLOWED.
 - NO PIPE SHALL EXCEED A DEFLECTION OF 5%.



THE FOLLOWING MINIMUM CLEARANCES MUST BE MAINTAINED :

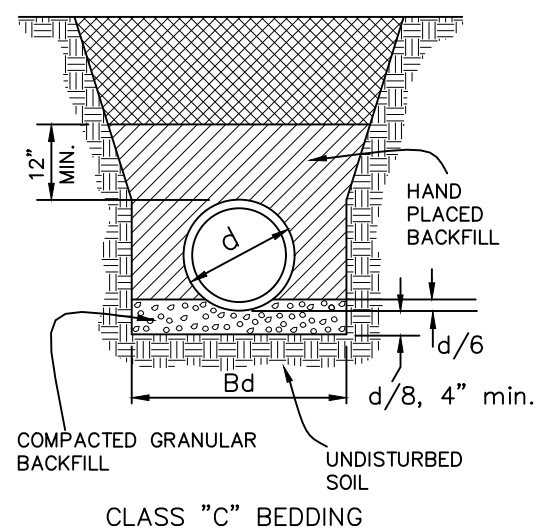
- WATER MAIN SHALL BE LOCATED TO FEET HORIZONTALLY DISTANT FROM ALL SANITARY SEWER AND STORM SEWER.
- WATER MAIN SHALL NOT PASS THROUGH NOR CONTACT A SEWER OR A SEWER MANHOLE. A MINIMUM HORIZONTAL SEPARATION OF 3 FEET SHALL BE MAINTAINED.
- VERTICAL SEPARATION OF WATER MAINS CROSSING OVER ANY SANITARY SEWER SHOULD BE A MINIMUM OF 18-INCHES, MEASURED OUTSIDE TO OUTSIDE FROM 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 18-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.
- EXISTING OR PROPOSED VALVE BOXES THAT FALL WITHIN PAVEMENT MUST HAVE A SLIP-TYPE VALVE BOX.
- THE ENTIRE WATERMAIN SYSTEM, INCLUDING SERVICES TAPS IF APPLICABLE, SHALL BE PRESSURE TESTED PER AWWA C600. THE TEST SHALL BE PERFORMED AT A MINIMUM OF 150 psf FOR 2 HOURS WITH A MAXIMUM LOSS OF 5 psf.
- WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH SPECIFICATIONS.
- FIRE HYDRANTS SHALL BE MUELLER SUPER CENTURIAN 250 OR APPROVED CITY EQUAL THAT OPEN RIGHT.
- BED WATER MAIN ON NATIVE MATERIAL, DIG IN BELLS, AND BACKFILL WITH SUITABLE MATERIAL.
- ALL CONCRETE SANITARY MANHOLES SHALL HAVE CONSHIELD ANTI-MICROBIALADDITIVE INCORPORATED IN THE CONCRETE MIX.

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 THOSE FACILITIES FOR NECESSARY MODIFICATIONS. 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 THAT THERE MAY BE OTHER FACILITIES IN THE CONSTRUCTION AREA, THE EXISTENCE OF WHICH IS NOT PRESENTLY KNOWN OR SHOWN HEREON. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION, AND TO AVOID DAMAGE THERETO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.

STORM SEWER NOTES

- STORM SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD DETAILED SPECIFICATIONS AND DETAILED SPECIFICATION REQUIREMENTS PREPARED FOR THIS PROJECT. CITY OF WEST BRANCH DESIGN AND CONSTRUCTION STANDARDS AND PROCEDURES SHALL PREVAIL.
- ALL STORM SEWERS SHALL BE CLASS 3 RCP UNLESS NOTED OTHERWISE IN THE PLANS.
- AT PLACES WHERE A FLARED END SECTION IS REQUIRED, PIPE LENGTH INCLUDES THE FLARED END. THE LAST TWO JOINTS ARE TO BE TIED WHERE FLARED END SECTIONS ARE REQUIRED.
- ALL RCP STORM SEWERS SHALL BE PROVIDED WITH CLASS "C" BEDDING, UNLESS NOTED OTHERWISE. PVC SEWERS SHALL BE PROVIDED WITH CRUSHED STONE ENCASEMENT.
- STORM SEWERS SHOWN ON THE PROFILE VIEW SHALL BE BACKFILLED WITH EITHER OF THE FOLLOWING COMPACTED TO 90% MODIFIED PROCTOR DENSITY:
 - SUITABLE EXCAVATED MATERIAL. IF EXCAVATED MATERIAL IS NOT SUITABLE, THEN
 - CRUSHED STONE AS SPECIFIED FOR GRANULAR TRENCH BACKFILL SHALL BE USED.
- GRANULAR TRENCH BACKFILL SHALL BE CRUSHED STONE CONFORMING TO I.D.O.T. STANDARD SPECIFICATION 4120.04 WITH 1" MAXIMUM AGGREGATE SIZE. COMPACT TO 90% MODIFIED PROCTOR DENSITY.
- ALL STORM SEWERS SHALL HAVE CONFINED "O" RING GASKETS. STORM SEWERS 36" AND SMALLER SHALL HAVE BELL AND SPIGOT JOINTS. STORM SEWERS LARGER THAN 36" MAY HAVE TONGUE AND GROOVE JOINTS. NO MASTIC JOINTS ALLOWED.
- ALL PIPE SHALL BE CERTIFIED.
- LIFT HOLES IN STORM SEWER WILL NOT BE ALLOWED.
- PROVIDE CONCRETE FILLETS IN ALL NEW & EXISTING DRAINAGE STRUCTURES PER REFERENCED DETAILS.

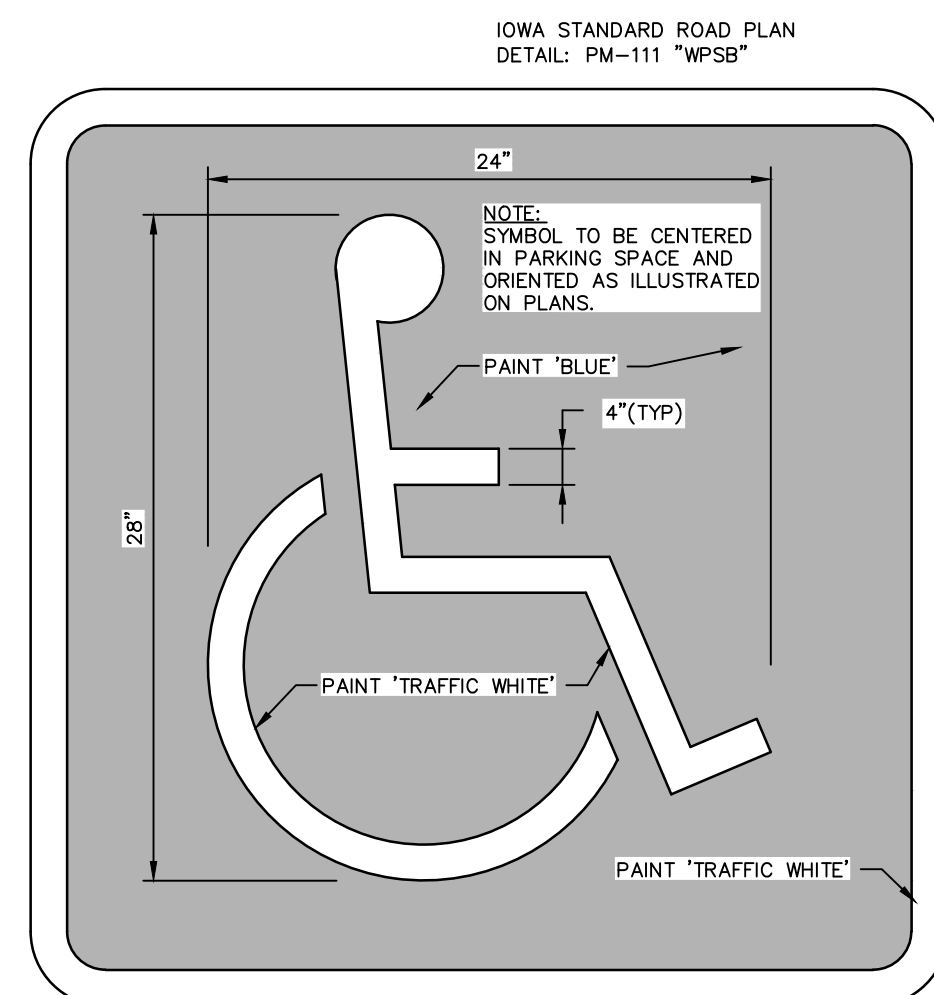
WHERE PUBLIC UTILITY FIXTURES ARE SHOWN AS EXISTING ON THE PLANS, OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNERS OF THOSE UTILITIES PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. THE CONTRACTOR SHALL AFFORD ACCESS TO THOSE FACILITIES FOR 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 THAT THERE MAY BE OTHER FACILITIES IN THE CONSTRUCTION AREA, THE EXISTENCE OF WHICH IS NOT PRESENTLY KNOWN OR SHOWN HEREON. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION, AND TO AVOID DAMAGE THERETO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.



- NOTES:
- PIPE SHALL BE PLACED ON CRUSHED STONE MATERIAL.
 - BELL HOLES SHALL BE HAND SHAPED SO THAT ONLY PIPE BARREL RECEIVES BEARING PRESSURE.
 - PLACE BEDDING TO ENSURE THAT THERE ARE NO VOIDS UNDER OR ALONGSIDE THE LENGTH OF PIPE.
 - BACKFILL SHALL BE HAND TAMPED UP TO 12" ABOVE TOP OF PIPE.
 - SEE TABLE FOR ALLOWABLE TRENCH WIDTH Bd.

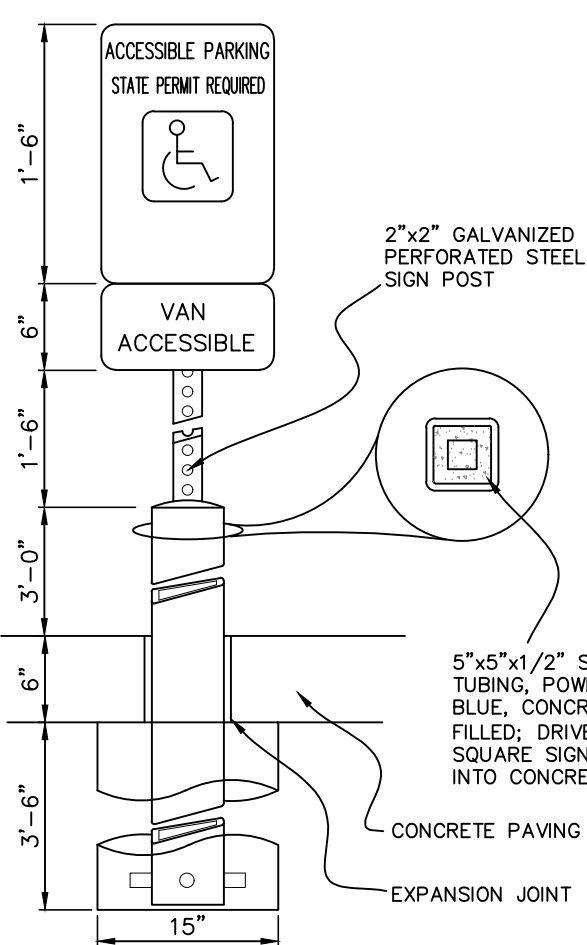
ACCESSIBLE PARKING SYMBOL

N.T.S.



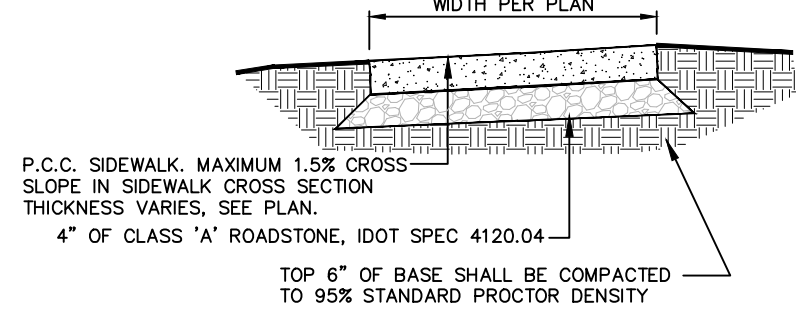
ACCESSIBLE SIGN DETAIL

N.T.S.



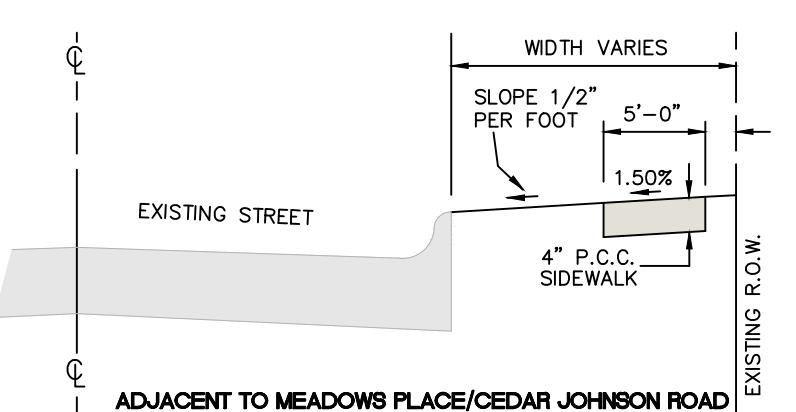
TYPICAL SIDEWALK DETAIL

N.T.S.



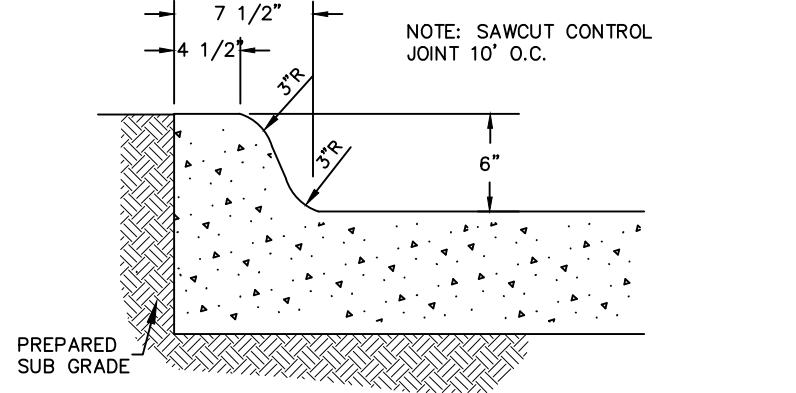
TYPICAL SIDEWALK INSTALLATION

N.T.S.



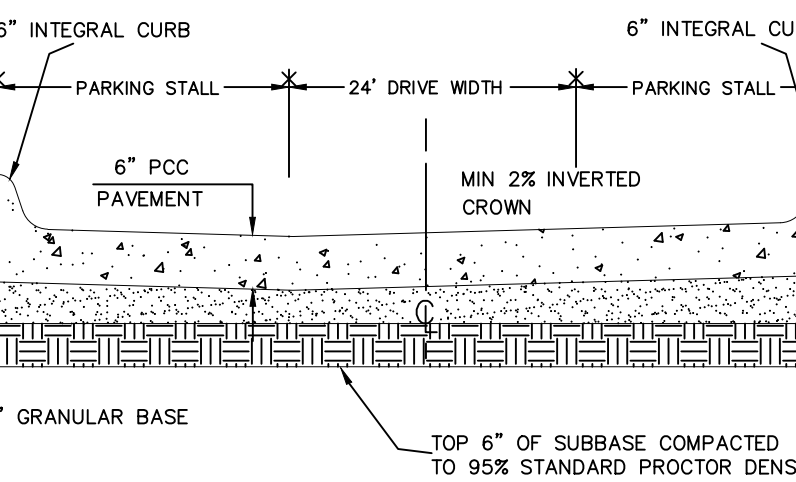
6" STANDARD CURB DETAIL

N.T.S.



TYPICAL DRIVE/PARKING SECTION

N.T.S.



LANDSCAPE REQUIREMENTS

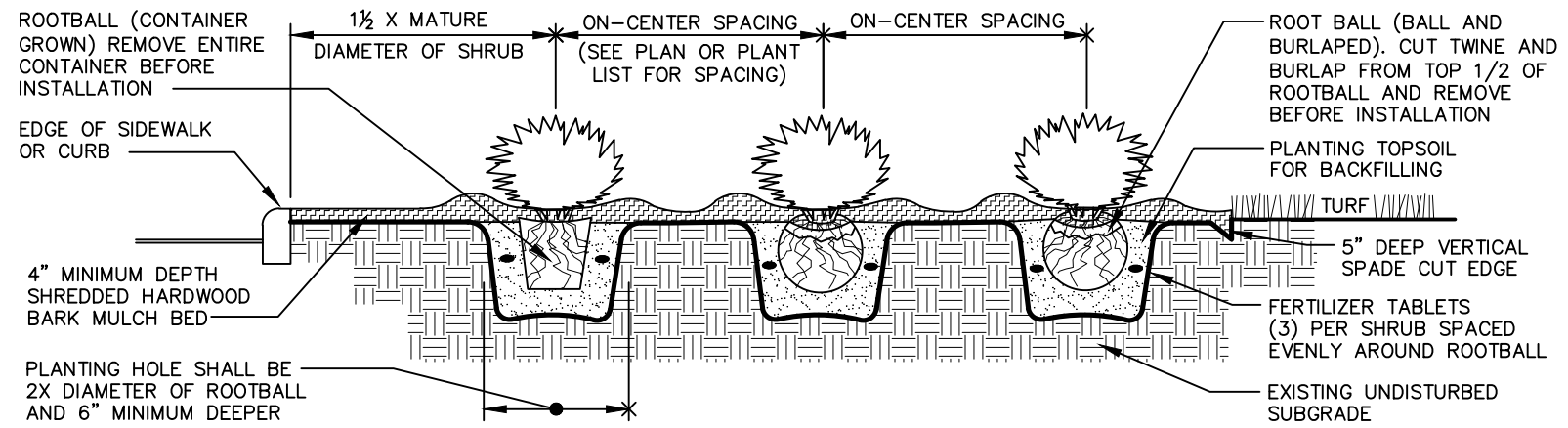
25% OPEN SPACE REQUIRED
- 164,573 X 0.25 = 41,143 SF
1 TREE PER 1,500 SF OF OPEN SPACE
- 41,143 / 1,500 = 27 TREES
1 SHRUB PER 1,000 SF OF OPEN SPACE
- 41,143 / 1,000 = 41 SHRUBS

PLANT SCHEDULE

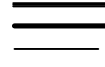
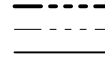
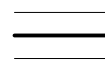
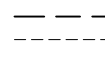


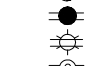
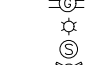
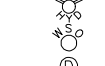

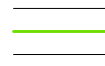
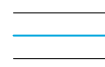
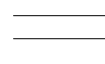



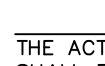

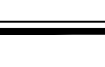

TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	INSTALL SIZE	COMMENT	MATURE H. X W.
	BN	3	Betula nigra	River Birch	2" Cal.	B4B	60' x 45'
	GB	1	Ginkgo biloba 'Autumn Gold' TM	Autumn Gold Ginkgo	2" Cal.	B4B	50' x 30'
	GT	1	Gleditsia triacanthos inermis 'Skycole' TM	Skyline Thornless Honey Locust	2" Cal.	B4B	45' x 35'
	LT	1	Liriodendron tulipifera	Tulip Tree	2" Cal.	B4B	80' x 50'
	PG	11	Picea glauca 'Densata'	Black Hills Spruce	6" Ht.	B4B	40' x 15'
	PS	3	Pinus strobus	Eastern White Pine	6" Ht.	B4B	60' x 35'
	QB	3	Quercus bicolor	Swamp White Oak	2" Cal.	B4B	60' x 60'
	QR	2	Quercus rubra	Red Oak	2" Cal.	B4B	70' x 70'
	TA	2	Tilia amercana 'Bailyard'	Frontyard® American Linden	2" Cal.	B4B	60' x 40'
SHRUBS, ORNAMENTAL GRASSES & PERENNIALS	CODE	QTY	BOTANICAL NAME	COMMON NAME	INSTALL SIZE	COMMENT	MATURE H. X W.
	JC	21	Juniperus chinensis 'Sea Green'	Sea Green Juniper	24" Ht.	Container	4' x 6'
	TO	9	Thuja occidentalis 'Little Gant'	Little Gant Arborvitae	24" Ht.	Container	5' x 5'
	VT	20	Viburnum trilobum 'Bailey Compact'	Bailey's Compact Viburnum	30" Ht.	Container	6' x 5'

SHRUB PLANTING DETAIL (DECIDUOUS AND EVERGREEN)

N.T.S.



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
	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
	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
	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

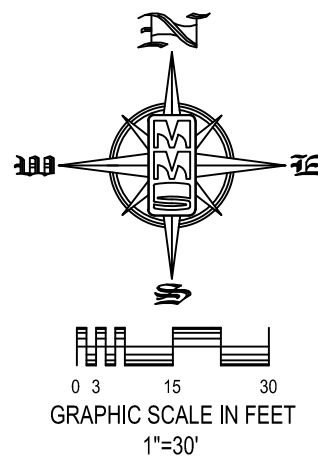
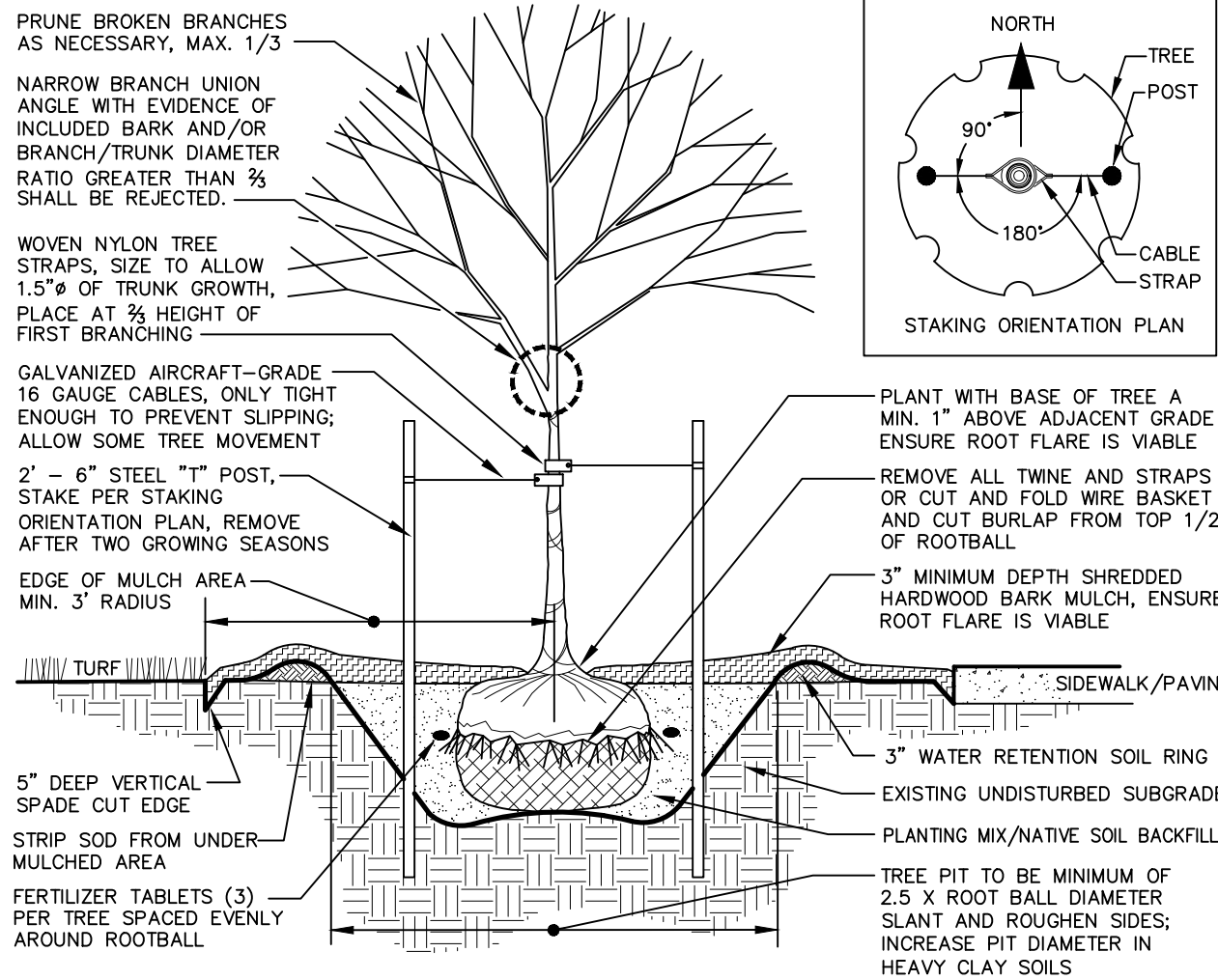
THE CONTRACTOR SHALL NOTIFY IOWA ONE CALL AT 811 OR 800/292-8989 NO LESS THAN 48 HRS. IN ADVANCE OF ANY DIGGING OR EXCAVATION.

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 THERE TO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.



TYPICAL TREE PLANTING DETAIL

N.T.S.



SHEET INDEX
C120 SITE LAYOUT AND DIMENSION PLAN
C140 SWPPP AND EROSION CONTROL PLAN
C141 DETAILED GRADING PLAN
C160 UTILITY PLAN
C500 GENERAL NOTES AND DETAILS
L100 LANDSCAPE PLAN

3.78 AC

MMS

CIVIL ENGINEERS
LAND PLANNERS
LAND SURVEYORS
LANDSCAPE ARCHITECTS
ENVIRONMENTAL SPECIALISTS

1917 S. GILBERT ST.
IOWA CITY, IOWA 52240
(319) 351-8282
www.mmsconsultants.net

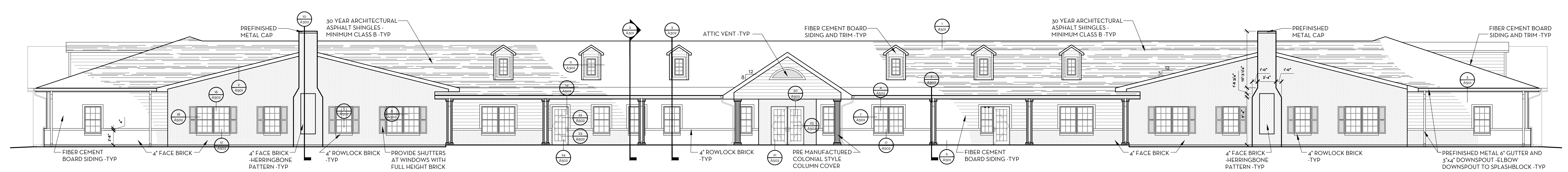
Date	Revision
07/12/23	PER CITY REVIEW -RLC

LANDSCAPE PLAN

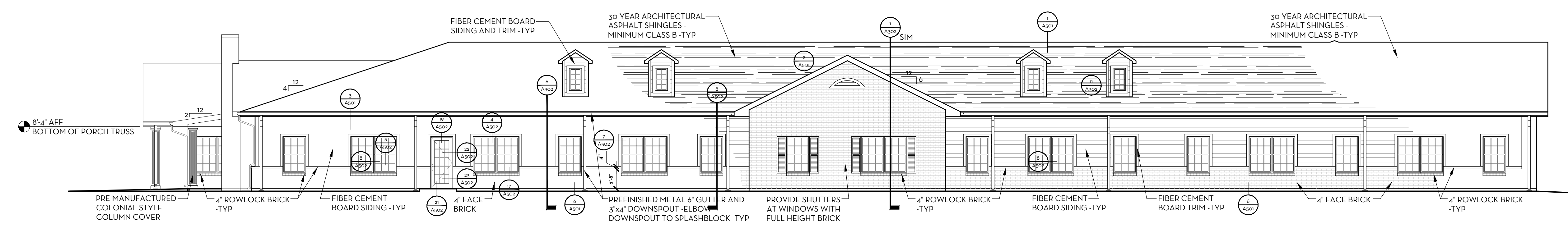
LOT 4, THE MEADOWS
SUBDIVISION -
PART THREE
WEST BRANCH
CEDAR COUNTY
IOWA

MMS CONSULTANTS, INC.

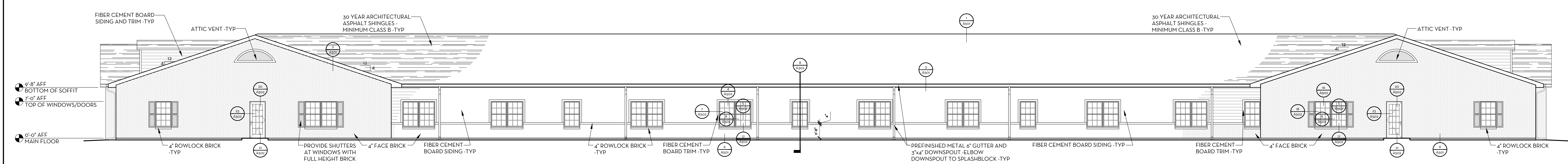
Date:	06-30-23
Designed by:	RLA
Field Book No:	FIELDBOOK
Drawn by:	ADP
Scale:	1"=30'
Checked by:	RLA
Sheet No:	L100
Project No:	11770-001
of:	6



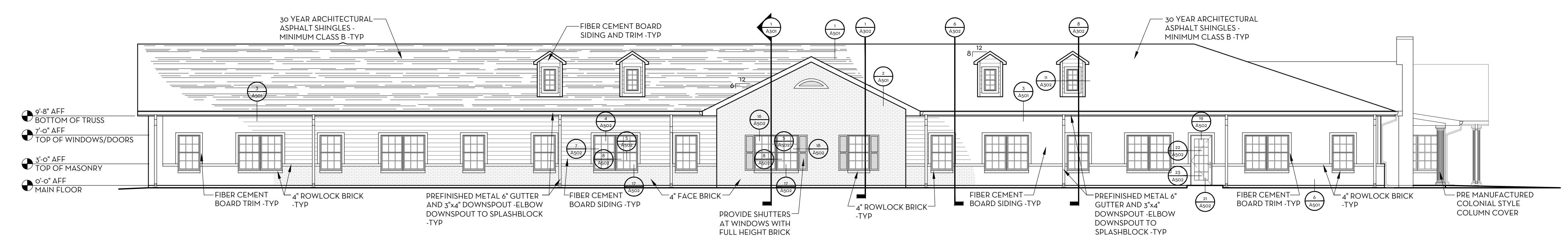
1 EXTERIOR ELEVATION
SCALE: 1/8" = 1'-0"



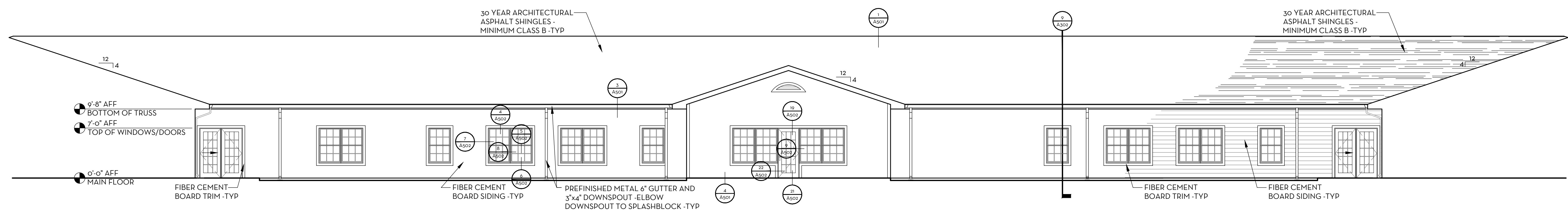
2 EXTERIOR ELEVATION
SCALE: 1/8" = 1'-0"



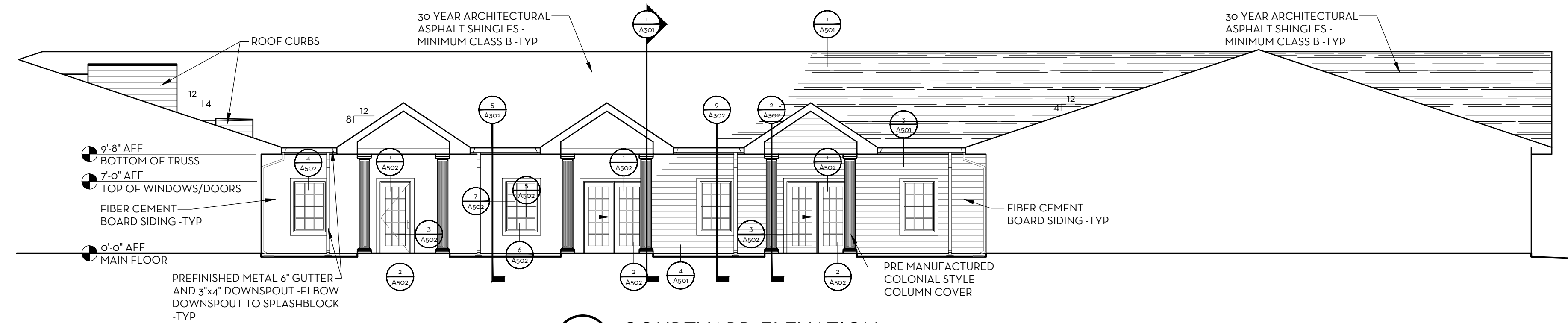
3 EXTERIOR ELEVATION
SCALE: 1/8" = 1'-0"



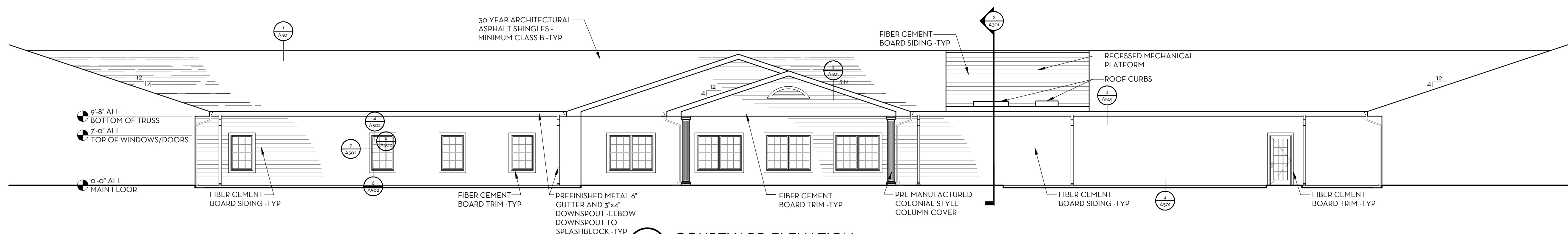
4 EXTERIOR ELEVATION
SCALE: 1/8" = 1'-0"



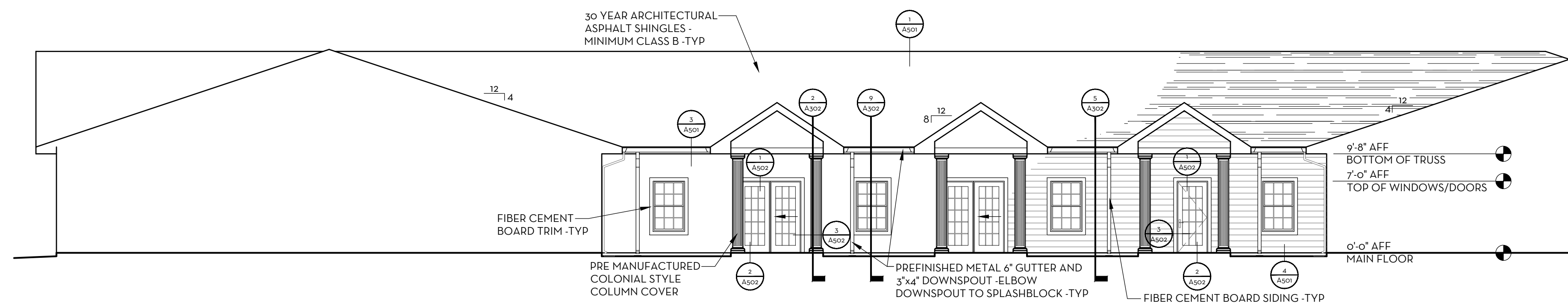
1 COURT YARD ELEVATION
SCALE: 1/8" = 1'-0"



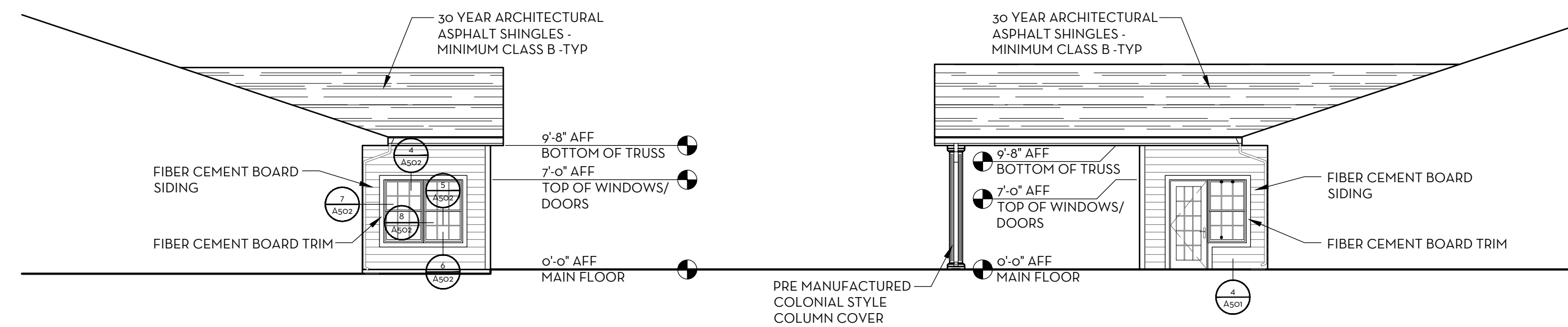
2 COURT YARD ELEVATION
SCALE: 1/8" = 1'-0"



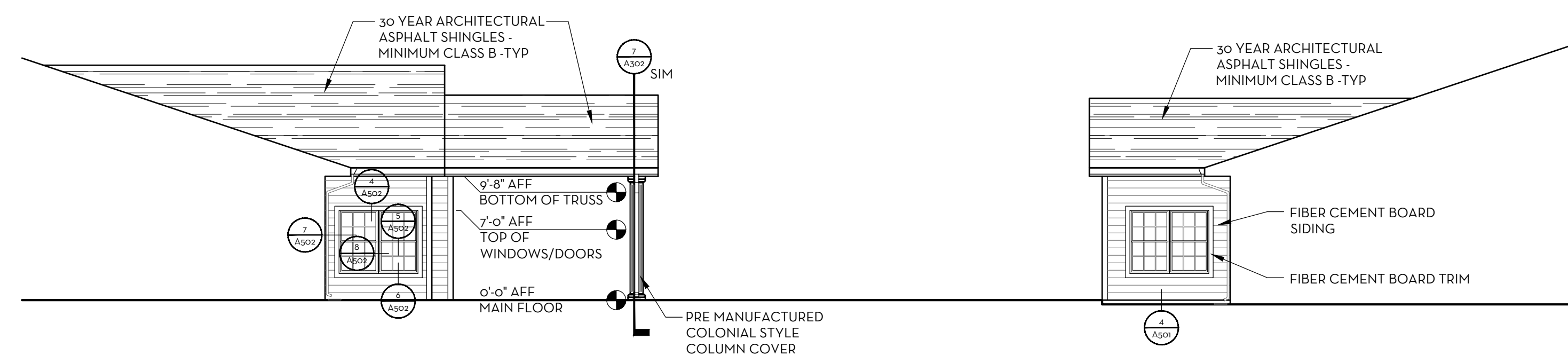
3 COURT YARD ELEVATION
SCALE: 1/8" = 1'-0"



4 COURT YARD ELEVATION
SCALE: 1/8" = 1'-0"



5 COURT YARD ELEVATION
SCALE: 1/8" = 1'-0"



6 COURT YARD ELEVATION
SCALE: 1/8" = 1'-0"

BAD IS ONE INCH ON
OFFICIAL DRAWINGS
IF NOT ONE INCH,
ADJUST SCALE ACCORDINGLY

ASPECT
architecture+design

© COPYRIGHT 2022 ASPECT, INC.

DRAWN BY: JAD
APPROVED: SLE
JOB DATE: MAY 11, 2023
JOB NO: MARKETING

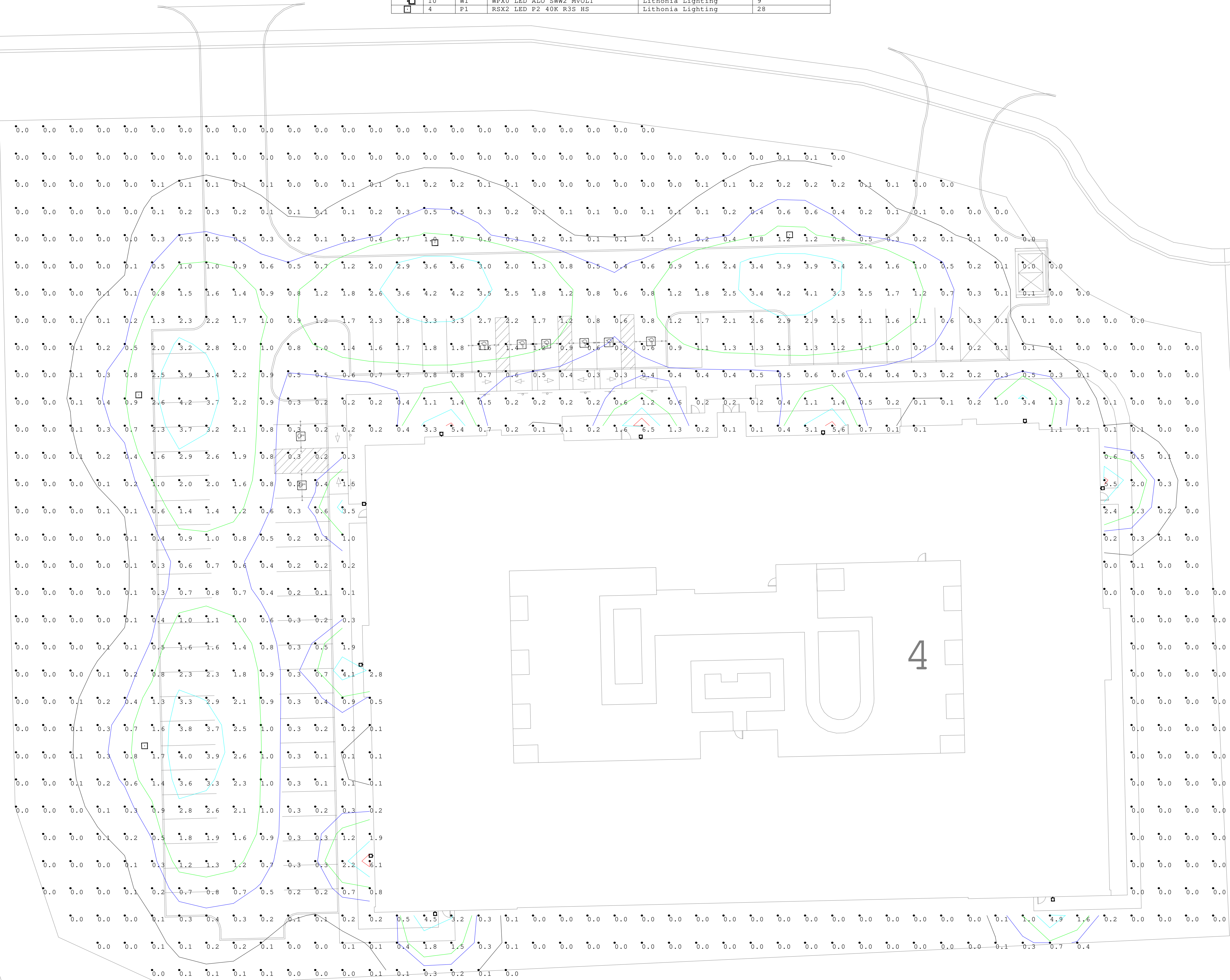
WEST BRANCH ASSISTED LIVING

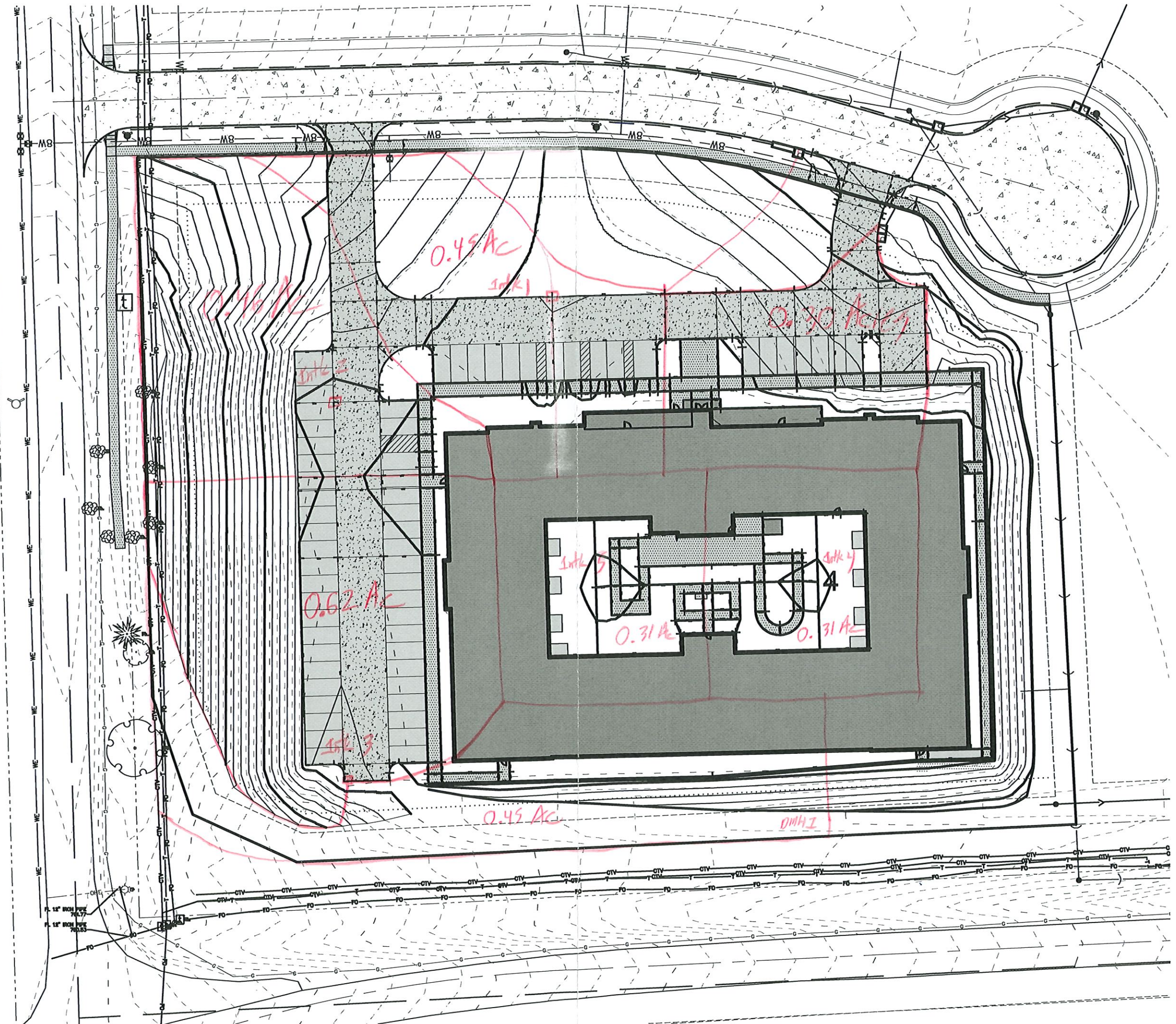
WEST BRANCH, IOWA

ARCHITECTURAL
EXTERIOR ELEVATIONS

DRAWING
A202

Luminaire Schedule					
Symbol	Qty	Label	Description	[MANUFAC]	Mounting Height
■	10	W1	WPX0 LED ALO SWW2 MVOLT	Lithonia Lighting	9
□	4	P1	RSX2 LED P2 40R R3S HS	Lithonia Lighting	28





1" = 50'



MMS CONSULTANTS, INC.

319-351-8282 - FAX 319-351-8476 - IOWA CITY - IOWA EMAIL: MMS@MMSCONSULTANTS.NET

PROJECT: Lot 4 The Meadows

SUBJECT: storm intake design

PROJECT # 11770-001

DATE: 6/7/2023

PREPARED BY: RLA

REVIEWED BY:

Page

or

Intake # 1

Area = 0.45 Acres

C = 0.85

I_s = 4.8 inches/hr

$$Q = 0.45 \cdot 0.85 \cdot 4.8 = 1.84 \text{ cfs}$$

with SW-501 intake

Perimeter (P) = 5.86 ft

Open Area (A) = 1.95 ft²

depth acting as weir

$$Q = 3.0 \cdot P \cdot d^{3/2}$$

$$1.84 = 3.0 \cdot 5.86 \cdot d^{3/2}$$

$$d^{3/2} = \frac{1.84}{3.0 \cdot 5.86} = 0.1047$$

$$d = 0.22 \text{ feet}$$

depth acting as orifice

$$Q = 0.67 \cdot A \cdot (2gd)^{0.5}$$

$$1.84 = 0.67 \cdot 1.95 \cdot (64.4 \cdot d)^{0.5}$$

$$d = \left(\frac{1.84}{0.67 \cdot 1.95} \right)^2 / 64.4 = 0.03 \text{ ft}$$

Ponding depth = 0.22 feet - ok



MMS CONSULTANTS, INC.

319-351-8282 - FAX 319-351-8476 - IOWA CITY - IOWA EMAIL: MMS@MMSCONSULTANTS.NET

PROJECT: Lot 4 The Meadows

SUBJECT: Storm Intake Design

PROJECT # 11770-001

DATE: 6/7/2023

PREPARED BY: ALA

REVIEWED BY: _____

Page

of

Intake #2

$$A_{eq} = 0.46 \text{ Acres}$$

$$C = 0.85$$

$$I_s = 4.8 \text{ inches/hr}$$

$$Q = 0.46 \cdot 0.85 \cdot 4.8 = 1.88 \text{ cfs}$$

with SW-511 intake

$$\text{Perimeter } (P) = 10.54 \text{ ft}$$

$$\text{Open Area } (A) = 2.91 \text{ ft}^2$$

depth acting as weir

$$Q = 3.0 \cdot P \cdot d^{3/2}$$

$$1.88 = 3.0 \cdot 10.54 \cdot d^{3/2}$$

$$d = \left(\frac{1.88}{3.0 \cdot 10.54} \right)^{2/3} = 0.15 \text{ feet}$$

depth acting as orifice $Q = 0.67 \cdot A \cdot (2gd)^{0.5}$

$$1.88 = 0.67 \cdot 2.91 \cdot (64.4d)^{0.5}$$

$$d = \left(\frac{1.88}{0.67 \cdot 2.91} \right)^2 / 64.4 = 0.01 \text{ feet}$$

Ponding depth = 0.15 feet - ok



MMS CONSULTANTS, INC.

319-351-8282 - FAX 319-351-8476 - IOWA CITY - IOWA EMAIL: MMS@MMSCONSULTANTS.NET

PROJECT: Lot 4 The Meadows
SUBJECT: Storm Intake Design

PROJECT # 11770-001

DATE: 6/7/2023

PREPARED BY: RLA

REVIEWED BY: _____

Page

of

Proposed Intake #3

$$A_{req} = 0.62$$

$$C = 0.85$$

$$I_s = 4.8 \text{ in/hr}$$

$$Q = 0.62 \cdot 0.85 \cdot 4.8 = 2.53 \text{ cfs}$$

with SW-501 intake

$$\text{Perimeter} = 5.86 \text{ ft}$$
$$A_{eq} = 1.95 \text{ ft}^2$$

depth acting as weir

$$Q = 3.0 \cdot P \cdot d^{3/2}$$

$$2.53 = 3.0 \cdot 5.86 \cdot d^{3/2}$$

$$d = \left(\frac{2.53}{3.0 \cdot 5.86} \right)^{2/3} = 0.27 \text{ feet}$$

depth acting as orifice

$$Q = 0.67 \cdot A \cdot (2gd)^{0.5}$$

$$2.53 = 0.67 \cdot 1.95 \cdot (64.4 \cdot d)^{0.5}$$

$$d = \left(\frac{2.53}{0.67 \cdot 1.95} \right)^2 / 64.4 = 0.06 \text{ feet}$$

Pooling depth = 0.27 feet - ok



MMS CONSULTANTS, INC.

319-351-8282 - FAX 319-351-8476 - IOWA CITY - IOWA EMAIL: MMS@MMSCONSULTANTS.NET

PROJECT: Lt 4 The Meadows
SUBJECT: Storm Intake Design

PROJECT # 11770-001

DATE: 6/7/2023

PREPARED BY: RLA

REVIEWED BY: _____

Page

or

Existing Intake # 3

$$A_{\text{req}} = 0.30 \text{ Acres}$$

$$C = 0.85$$

$$I_s = 4.8 \text{ in/hr}$$

$$Q = 0.30 \cdot 0.85 \cdot 4.8 = 1.22 \text{ cfs}$$

with SW-510 intake $S_L = 5.00\%$ $S_T = 3.17\%$

from Chart 1 width = 4.2 feet

$$\text{depth} = 4.2 \cdot 0.0317 = 0.13 \text{ feet}$$

with depth = 0.13 feet and $\alpha = 3 \text{ inches}$

$$\frac{Q_g}{L_g} = 0.12 \quad \text{with } L_g = 8 \text{ feet}$$

$$Q_g = 0.12 \cdot 8 = 0.96 \text{ cfs}$$

bypass to intake on Cul-de-sac = 0.26 cfs

$$T = \left(\frac{Q \cdot 0.015}{0.56 \cdot (0.02)^{1.67} (S)^{0.5}} \right)^{0.377}$$

$$T = \left(\frac{18.4155 \cdot Q}{(S)^{0.5}} \right)^{0.377}$$

$$Q = \frac{0.56}{n} S_x^{1.67} S^{0.5} T^{2.67}$$

EXAMPLE: GIVEN:

$n=0.016$; $S_x=0.03$
 $S=0.04$; $T=6$ FT

FIND:

$Q = 2.4$ FT³/S
 $Qn = 0.038$ FT³/S

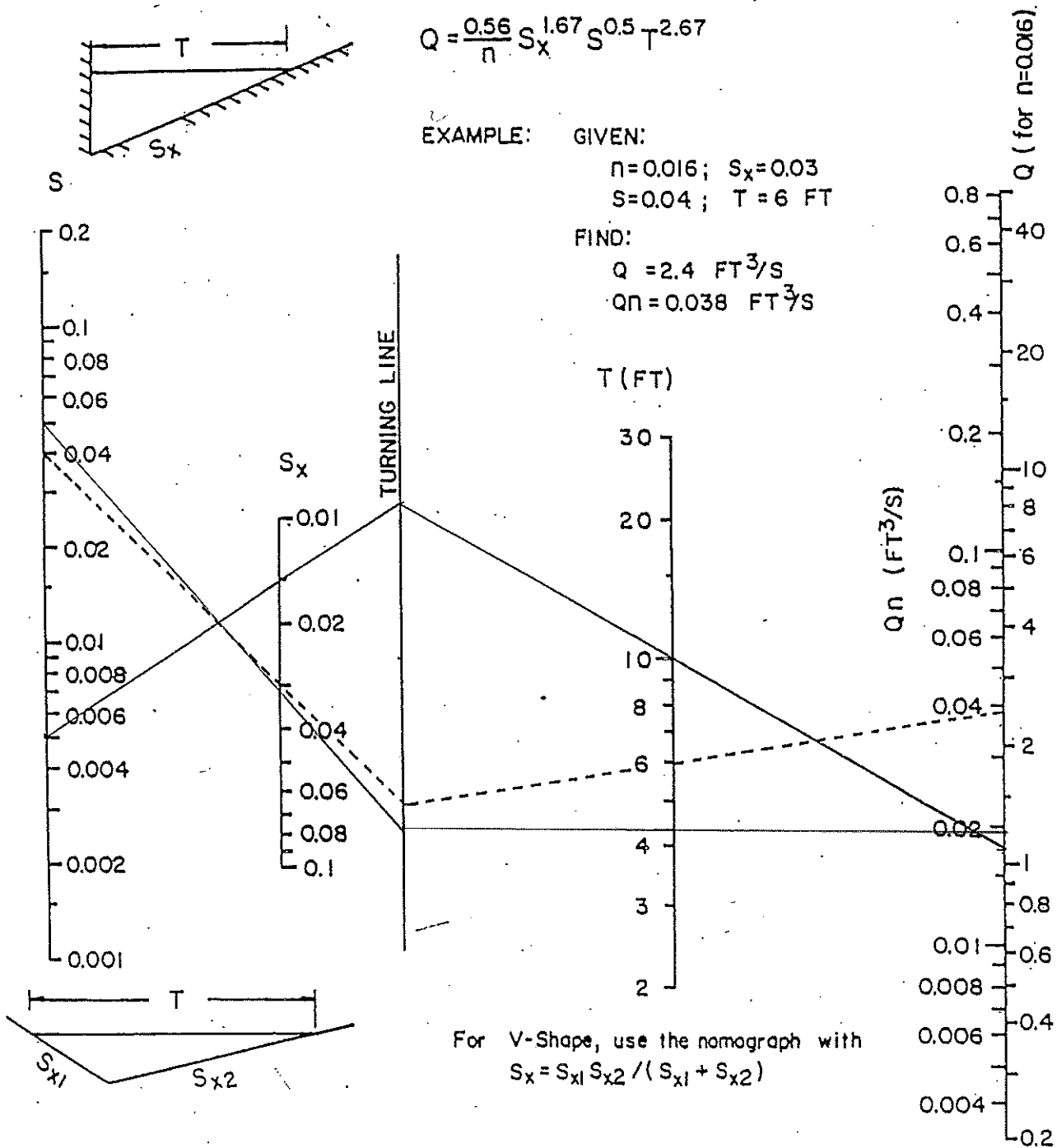


CHART 1 Flow in triangular gutter sections.

1073.01



A graph showing the relationship between the normalized length L/L_a (x-axis) and the normalized velocity a/y (y-axis). The x-axis ranges from 0.05 to 1.0, and the y-axis ranges from 0.0 to 1.0. Several curves are plotted, corresponding to different values of the ratio c/a . The curves are labeled with values of c/a : 0, 0.3, 0.6, 1.0, 2.0, and 4.0. As c/a increases, the curves shift towards lower values of a/y for a given L/L_a .



MMS CONSULTANTS, INC.

319-351-8282 - FAX 319-351-8476 - IOWA CITY - IOWA EMAIL: MMS@MMSCONSULTANTS.NET

PROJECT: Lt 4 The Meadows
SUBJECT: storm intake design

PROJECT # 11770-001

DATE: 6/7/2023

PREPARED BY: RLA

REVIEWED BY: _____

Page

of

Intakes 4 & 5

$$A_{req} = 0.31$$

$$C = 0.85$$

$$I_{100} = 8.4 \text{ in/hr}$$

$$Q_{100} = 2.21 \text{ cfs}$$

with SW-512 intake with type 5 casting

$$P = 6.0 \text{ ft}$$

$$A = 3.06 \text{ ft}^2$$

depth acting as well $Q = 3.0 \cdot P \cdot d^{3/2}$

$$2.21 = 3.0 \cdot 6.0 \cdot d^{3/2}$$

$$d = \left(\frac{2.21}{3.0 \cdot 6.0} \right)^{2/3} = 0.25 \text{ feet}$$

depth acting as orifice $Q = 0.67 \cdot A \cdot (2gd)^{0.5}$

$$2.21 = 0.67 \cdot 3.06 \cdot (64.4 \cdot d)^{0.5}$$

$$d = \left(\frac{2.21}{0.67 \cdot 3.06} \right)^2 / 64.4 = 0.02 \text{ feet}$$

ponding depth = 0.25 feet

Intake 4 rim elevation = 769.11

ponding elevation = 769.36

Finished Floor elevation = 771.00 - ok

CHAPTER 9:

TRANSPORTATION

Introduction.

The City of West Branch's transportation system is vital to everyday life within the city and for access throughout the region and beyond. Locally, the transportation system facilitates the movement of people as well as goods. The system allows residents to get from their homes to employment, education, medical care, recreation, and shopping opportunities. Good transportation allows people and goods to move efficiently and reliably to and from the city. Connections to regional transportation networks allow businesses to import and export goods quickly and efficiently, give access to the city by tourists, and allow the region to compete in the global marketplace. Along with the benefits from transportation, come unintended negative impacts. If left unchecked, pollution, noise, congestion, safety, and high maintenance costs can diminish their quality of life for local residents. In addition, some segments of the population such as the disabled, the elderly, and low-income persons are not able to utilize portions of the transportation system. Through this Comprehensive Plan, the City of West Branch will strive to provide efficient and affordable transportation to residents and businesses while also striving to minimize negative impacts. The City of West Branch will work to provide diverse and interconnected modes of transportation, accessibility, safety, and improved environmental quality.

Goal 1: To provide efficient and affordable transportation for city residents and businesses, while striving to minimize negative effects.

Objective 1: The City Council adopt the Complete Streets section in this chapter as city policy, and, in particular, ensure that all future street projects on new or existing streets encompass complete streets practices unless explicitly excluded by action of the City Council.

Objective 2: The City should work to encourage city residents and/or staff to become members of RPA 10 committees to encourage full

consideration of West Branch projects in future RP 10 transportation plans and TIPS.

Objective 3: The city will ensure that adequate pedestrian facilities, bicycle parking and vehicle parking for the disabled are pursued as elements of its complete streets policies.

Objective 4: West Branch should continue to work with state and regional transportation staff to improve safety for all its road users.

Goal 2: It is City policy to increase children's physical activity to benefit their short- and long-term health and improve their ability to learn.

Objective 1: Children are to be given safe and appealing opportunities for walking and bicycling to school and to other access points such as the public library, in order to decrease rush-hour traffic and fossil fuel consumption, encourage exercise and healthy living habits, and reduce the risk of injury to children through traffic collisions near schools.

Objective 2: The City will partner with the West Branch School District to encourage programs such as Walk and Bike to School Days, as well as "Walking School Bus" / "Bike Train" programs at elementary schools (where parents take turns accompanying a group of children to school on foot or via bicycle). Both parties will encourage educational programs that teach students safe walking and bicycling behaviors and educate parents and drivers in the community about the importance of safe driving.

Goal 3: Trails as both transportation and recreation facilities should be planned and implemented within West Branch and as connections to surrounding areas.

Objective 1: The City Council should adopt a trails vision and support the production of a map indicating desired trail connections.

Objective 2: West Branch should plan a trails system to serve transport and recreation users, and seek financing to implement the system.

Goal 4: The city should monitor changing transportation circumstances, such as evolving technology, to ensure the city has adequately and efficiently provided transportation for its future needs.

Objective 1: Publicize and promote paratransit services. Strive for cost effectiveness in service provision, perhaps enlisting volunteer support.

Objective 2: Promote low-cost and environmentally friendly service that is provided by employers, such as the University of Iowa vanpool, is a city objective.

Objective 3: Be attentive to the needs for freight service and ensure trucking needs are accounted for in street planning, design, and administration.

Objective 4: Keep abreast of changes in transport services and technology that impact the city, and in particular prepare for network service operations and the emergence of electric and autonomous vehicles.

Objective 5: The city should consider adding public electric vehicle charging stations and encouraging home charging stations for new construction or reconstruction.

Transportation Planning.

The City of West Branch coordinates with a regional transportation planning agency, Regional Planning Affiliation 10 (RPA 10)—staffed by the East Central Iowa Council of Governments). RPA 10 is a seven-county region that includes Benton, Cedar, Iowa, Johnson, Jones, Linn, and Washington counties. RPA 10 was first formed in 1964 and facilitates coordination among local, regional, state, and federal agencies on transportation issues and plans. RPA 10 is responsible for planning for the development of a seamless system for the safe and efficient movement of people and goods within and between modes of transportation including streets, highways, bicycle, pedestrian, transit, rail, water, and air. RPA 10 has a 14-member policy committee with two members from each affiliated county and a technical advisory committee with three members from each county; in 2019 none of the Cedar County members on either committee were from West Branch.¹

The City of West Branch's Comprehensive Plan provides an overview of the City's transportation system. More detailed transportation information is included in the RPA 10 Long Range Transportation Plan (LRTP) for passenger transport. The RPA 10 LRTP focuses on transportation-related issues over a 20-year period. In accordance with Iowa DOT recommendations, RPA 10 updates its LRTPs every five years. The LRTP provides an explanation of the area's current transportation trends, and a forecast of future transportation issues. Through the LRTP planning process, local residents create the vision and goals that will guide transportation investment within the region over the next 20 years. The RPA 10 LRTP and other transportation planning documents (such as a trails plan) are available for download at www.ecicog.org, under plans. The plan that was current in 2019 covers 2016-2020, and the current Transportation Improvement Program (TIP), adopted in 2018, covers 2019-2022. That TIP lists one bridge replacement project in West Branch, over Wapsinonic Creek. The City desirably should work to encourage city residents and/or staff to become members of RPA 10 committees to encourage full consideration of West Branch projects in future plans and TIPs.

Roadways.

The predominant transportation system in West Branch is a network of streets and highways that carry cars and trucks, but also can be utilized by bicyclists. These roadways serve the circulation needs of local residents and those of visitors from outside the area. The following section describes the roadway system connecting the City in terms of functional classification, capacity, congestion, and safety. Following that section is information on complete streets and sections about alternative forms of transportation and intercity transportation connections.

Functional Classification.

Functional classification is commonly used to describe roadways based on the type of service that they provide. Roadways provide two basic types of service: land access, and mobility. The degree to which a roadway provides access and/or mobility determines its functional classification. The key to planning an efficient roadway system is finding the appropriate balance between mobility and accessibility. The following section describes functional classifications. Map 9.1 displays West Branch roads by Functional Classification.

Principal Arterial roadways primarily serve a mobility function with minimal land access. The primary purpose of principal arterials is the relatively rapid movement of people and goods for extended distances. Principal arterials are higher-capacity, higher-speed roadways with restricted land access. Although not meeting all those criteria, the closest roads to principal arterials in West Branch are Main Street (and its extension out of town as Hoover Highway), Parkside Drive, and Baker Avenue. An important highway for passenger and freight transportation that serves the function of a principal arterial borders West Branch to the south, Interstate Highway 80. I-80 is expected to increase its traffic over the span of this comprehensive plan, particularly its heavy truck traffic.² A capacity expansion for I-80 from four to six lanes by the Iowa Department of Transportation was in the planning process in 2019, together with reconstruction of the I-80 interchange at Hoover Highway.

Minor Arterials interconnect with and augment principal arterials. Minor arterials within urban areas serve inter-community trips of moderate length. Although the primary purpose of the minor arterial is mobility, this functional class provides more access points and more land access than a principal arterial. An example is Johnson-Cedar Road in West Branch. Main Street in West Branch might be described as a minor arterial due to its low speeds and lack of access control.

Collector streets channel trips between the local street system and the arterials. An example is Orange Street. Collectors serve a balance between mobility and land access. Parking and direct driveway access to the street are typically allowed on collectors. Collectors are usually wider, have higher capacity, may have some parking restrictions, and permit somewhat higher speeds than the local street network.

Local Streets primarily provide local land access and offer the lowest level of mobility. Characteristics of local streets include uncontrolled intersections, posted speed limits of 25 miles per hour or less, and few restrictions on parking. Local streets include all streets not classified as principal arterial, minor arterial, or collector.

Traffic Volume.

Traffic volume is an important measure for the transportation system. Understanding traffic volume helps engineers and transportation planners design a road system that is appropriate for the community. Traffic volume is measured in Average Annual Daily Trips (AADT). AADT is the total traffic volume on a road for a year divided by 365 days. Map 9.2 displays the AADT for West Branch area roads. The data used in Map 2 was collected by the Iowa DOT in 2014 (and was the latest information available at <https://iowadot.gov/maps/Digital-maps/traffic/city-trafficmaps> in May, 2019). Main Street and Parkside Drive were the most heavily traveled West Branch city streets in 2014 (the most recent year for which the Iowa DOT had data in 2019) with 4,610 and 3,980 AADT respectively. Interstate 80 had the highest traffic volume in the area with an AADT of 34,400.

Roadway Safety.

Roadway safety is an important consideration when planning for the future of a transportation system. Outdated or deteriorating infrastructure, high traffic volumes, or unsafe driver behavior are all potential causes of safety issues that can lead to serious injury or death. Transportation planners use crash data to identify areas on the road network where the number of crashes is higher than expected. Once identified, a local government may take action to correct the problem. The Iowa Department of Transportation provides crash data for all counties in the state at but unfortunately this site shows data only for larger Iowa cities (5,000 population and above). However, rural Cedar County data for 2007-2011 are available at <https://iowadot.gov/crashanalysis/data/county/general/counts/count20072011/images/ipegs/cedar20072011.jpg>.

For the 2013 plan, using DOT data from 2008-2010, ECICOG staff created a map to illustrate the distribution of crashes. Map 9.3, which is included in this chapter from the 2013 plan, identified locations of crashes for that period. During the three-year time period 43 crashes occurred within city limits. The crash data suggest that while the City

is relatively safe, there are some problem areas. Injuries and fatalities from auto crashes can place a burden on local residents and can reduce the overall quality of life in the City. By observation in 2019, it is to be noted that Hoover Highway, continued to Main Street, has been experiencing increased bicycle traffic between the Iowa City area and West Branch. Limited sight distances and minimal shoulders on Hoover Highway suggest potential conflict with motor vehicles and an emerging safety problem. West Branch should continue to work with state and regional transportation staff to improve safety on Hoover Highway and throughout the city.

Complete Streets.

While functional classification may be helpful in describing a city's roadways, transportation planners and many localities increasingly find an additional concept more useful when describing and implementing the role of their street networks. This concept is termed "complete streets," and a policy of promoting complete streets was first discussed on 5/24/16 by the Planning & Zoning Commission, then further discussed and the following vision statement and policy approved by the Planning and Zoning Commission in 2017. Such a policy requires that design and implementation practices for city streets follow a policy of careful and individualized evaluation of street construction, reconstruction and maintenance procedures using current design options that comply with state and federal requirements in the following manuals, as well as others when feasible, to ensure access for all users:

- AASHTO Green Book: A Policy on Geometric Design of Highways and Streets, by the American Association of State Highway and Transportation Officials;
- AASHTO Guide for the Development of Bicycle Facilities, by the American Association of State Highway and Transportation Officials;
- Urban Street Design Guide, by the National Association of City Transportation Officials;
- Urban Bikeway Design Guide, by the National Association of City Transportation Officials and the Iowa Statewide Urban Design Standards, by the Institute for Transportation at Iowa State University.

As necessary, West Branch street ordinances should be revised to accord with complete streets policies.

The Commission's complete streets vision and policy statement follow.

Nearby communities and the MPO of Johnson County also incorporate the concept in their plans and ordinances.³

It is proposed that the Commission recommend that the City Council adopt this Complete Streets section as city policy, and, in particular, ensure that all future street projects on new or existing streets encompass complete streets practices unless explicitly excluded by action of the City Council.

Transportation Vision Statement

West Branch envisions a transportation system that encourages healthy, active living; promotes transportation options and independent mobility; increases community safety and access to healthy food; reduces environmental impact; mitigates climate change; and supports greater social interaction and community identity by providing safe and convenient travel along and across streets through a comprehensive, integrated transportation network for pedestrians, bicyclists, public transportation riders and drivers, motor-vehicle drivers, emergency vehicles, freight, and people of all ages and abilities, including children, youth, families, older adults, and individuals with disabilities.

Complete Streets Policy

It is the policy of the city of West Branch to provide safe and comfortable routes for walking, bicycling, and, in the future when practicable, public transportation, to increase the use of these modes of transportation, enable convenient and active travel as part of daily activities, reduce pollution, and meet the needs of all users of the streets, including children, families, older adults, and people with disabilities.

The City will integrate complete streets infrastructure and design features into street design and construction to create safe and inviting environments for all users to walk, bicycle, and use public transportation.

In planning, designing, and constructing complete streets: to the greatest extent practicable West Branch will include infrastructure that promotes a safe means of travel for all users along the right-of-way, such as sidewalks, shared-use paths, bicycle lanes, and paved shoulders.

West Branch will include infrastructure that facilitates safe crossing of the right-of-way, such as accessible curb ramps, crosswalks, refuge islands, and pedestrian signals; such infrastructure must meet the needs of people with different types of disabilities and people of all ages. The City will ensure that sidewalks, crosswalks, and other aspects of the transportation right-of-way are compliant with the Americans with Disabilities Act and meet the needs of people with different types of disabilities, including mobility impairments, vision impairments, hearing impairments, and others.

West Branch will consider incorporating street design features and techniques that promote safe and comfortable travel by pedestrians, bicyclists, and public transportation riders, such as traffic-calming circles, additional traffic-calming mechanisms, narrow vehicle lanes, raised medians, road diets, high street connectivity, and physical buffers and separations between vehicular traffic and other users.

To the extent practicable, West Branch will provide pedestrian-oriented signs, pedestrian-scale lighting, benches and other street furniture, and bicycle parking facilities. The city will encourage street trees, landscaping, and planting strips, including native plants where possible, in order to buffer traffic noise and protect and shade pedestrians and bicyclists. The City's long-term goal is to reduce surface water runoff by reducing the amount of impervious surfaces on the streets. It is the City's intent to have all future street projects on new or existing streets encompass complete streets practices unless explicitly excluded by action of the City Council.

Transportation for Youth.

It is City policy to increase children's physical activity to benefit their short- and long-term health and improve their ability to learn. Children are to be given safe and appealing opportunities for walking and bicycling to school in order to decrease rush-hour traffic and fossil fuel consumption, encourage exercise and healthy living habits in children, and reduce the risk of injury to children through traffic collisions near schools.

The City will partner with the West Branch School District to pursue encourage programs such as Walk and Bike to School Days, as well as "Walking School Bus"/"Bike Train" programs at elementary schools, where parents take turns accompanying a group of children to school on foot or via bicycle. Both parties will encourage educational programs that teach students safe walking and bicycling behaviors, and educate parents and drivers in the community about the importance of safe driving.

Bicycle and Pedestrian Transportation.

Non-motorized transportation is a key component of a multi-modal transportation system. Good walking and biking facilities can improve quality of life by reducing the number of vehicles on the road, promoting an active lifestyle, attracting visitors to the area, and providing a low-cost mode of transportation. In recent years, the City of West Branch has worked to integrate bike and pedestrian facilities into its transportation network. However, according to 2010 Census estimates, only 3.2% of the population walks to work, and only 0.47% rides a bike.⁴

West Branch's bike and pedestrian facilities fall into two categories, separated and on-street facilities. A separated facility is a bikeway/walkway physically separated from motorized traffic by open space or barrier either in the highway right-of-way or in an independent right-of-way. Separated facilities are suitable for all pedestrians and bicyclists. In an on-street route, bicyclists share space with motorized vehicles. On-street routes can take several forms including bike lanes or shared roadways. In some cases, striping, signing, and pavement markings designate a portion of the roadway for the preferential or exclusive use of bicyclists. In other cases, an on-street route signage indicates that the route is safe for bicyclists.

When planning a bicycling, hiking, and walking system, local governments should design a system that will accommodate as many users as possible in accord with complete streets policies. One interesting possibility for West Branch's system would be a bike-sharing program such as recently instituted by Solon, Iowa.⁵ Such a program could help expand bicycle usage by city residents, but could

⁴ U.S. Census Bureau, 2006-2010 American Community Survey.

⁵ http://factfinder2.census.gov/faces/tables/services/jsf/pages/productview.xhtml?pid=ACS_10_5YR_B08301&prodType=table.

⁵ For a description of Solon's program and its funding see: <https://patch.com/ohio/solon/solon-bicycle-renting-program-gets-boost-grant>.

be an effective way to bring visitors from the Hoover complex to historic properties and commercial activity in West Branch.

West Branch's system should take into consideration the differing abilities of the potential riders using the system. The Federal Highway Administration (FHWA) uses the following categories of bicycle users to assist in determining the impact that different facilities and roadway conditions will have on the bicyclist. Group A riders have the most experience, and are comfortable riding on most city streets. Group B bicyclists are less experienced and prefer riding on separated trails or low speed low traffic volume streets. Group C bicyclists are children. Children often use bicycles to get to school or recreation, but require well-defined separation from motor vehicles.

The Bicycle Federation of America estimates that out of nearly 100 million people in the United States that own bicycles, roughly 5 percent qualify as Group A bicyclists, with the remaining 95 percent as Group B and C bicyclists. See Map 1.6 for the bike and pedestrian facilities in West Branch.

In this update to the comprehensive plan, the Commission adopts the following vision statement for trails. That statement was created at an October, 2017, West Branch Trail Meeting, chaired by Mayor Roger Laughlin, and attended by interested West Branch citizens and city staff.

Trails Vision Statement.

West Branch will have a trail system linking city parks, schools, National Park Service, West Branch Public Library, business districts, neighborhoods and other communities, enhancing the lives of residents, and attracting more visitors to enjoy our community.

At the 2017 meeting, it was proposed that elements of the system should be as follows.

1. Verbal Statement of destinations to be connected.
 - a. West Branch Public Schools, West Branch Public Library, NPS, Business District, Beranek Park, Wapsi Park, Cubby Park, West Branch Dog Park and Hoover Nature Trail were all discussed as

- b. There is a desire to connect the West Branch trail system to other communities such as West Liberty, Iowa City, Solon, and Tipton.

2. List of existing trails and desired trail connections not yet built.
 - a. Beranek Park Connection
 - b. Cubby Park Connection
 - c. Improve sidewalk long north side of Main Street creating a connection to Hoover Park at Parkside Drive
 - d. Trail through the Meadows to Greenview
 - e. Eventually asphalt Hoover Nature Trail.
3. Map of the items mentioned above.

Superintendent Pete Swisher will check with the NPS resources and see if they can assist with the map. Mayor Laughlin will contact Cedar County GPS department and determine if they will be able to assist with mapping. *Map to be forthcoming.*
4. List of near-term priorities
5. General discussion of funding sources.

The 2011 City Trails Plan has a list of potential trail funding sources. An update to that Trails Plan that envisions 9 miles added to the current 4 miles of streets, sidewalks, and trails was presented to the City Council in June, 2019, although the update did not include trail funding.⁶

Safety – Improving bicycle and pedestrian safety will be a primary concern for West Branch. According to Iowa DOT, the state averages 5 bicyclist and 21 pedestrian fatalities each year. In West Branch, City injury hospitalization data shows bicycle and pedestrian accidents as one of the leading causes of injury and death for residents between the ages of 1 and 34. The Iowa DOT recommends the following to improve bicycle and pedestrian safety:

- Young children need supervision in the traffic environment.
- Children should learn bicycle and pedestrian safety from an early age.
- Wearing a helmet can reduce the risk of head injury by as much as 85%.⁷

⁶ See <http://www.westbranchtimes.com/article.php?id=15884>.

⁷ Iowa Department of Public Health. 2002-2006 The University of Iowa Injury Prevention Research Center. <http://www.public-health.uiowa.edu/jprc/resources/reports/Cedar-County.pdf>.

Distance – West Branch’s semi-rural character means that walking or bicycling to a destination can be difficult because of the distances involved. Local governments can help reduce travel distances by encouraging compact development that reduces sprawl and promotes land-use patterns that create more walkable neighborhoods. Examples of this include conservation subdivisions, mixed-use development, cluster development, planned unit developments, and infill development.

Infrastructure – Incomplete infrastructure prevents many West Branch residents from walking and biking. Local governments can fill the gaps in the bicycle and pedestrian network working to obtain funding for trails and other facilities, and by adopting new sidewalk and Complete Streets policies. Complete Streets are designed to allow pedestrians, bicyclists, and transit to travel safely alongside automobiles. West Branch communities should continue to work to improve the quality of its residents by supporting programs that make walking and biking safer and more convenient. West Branch should also collaborate with Cedar County, Johnson County and surrounding communities to improve trail infrastructure, both for the use of city residents and to economically support local businesses through tourism.

Transit.

East Central Iowa (ECI) Transit provides demand-responsive rural transit service in the counties of Benton, Iowa, Johnson, Jones, Linn, and Washington counties. ECICOG is responsible for administration, coordination, and planning of ECI Transit. ECICOG does not directly operate the transit service. ECICOG contracts with a transit service provider in each affiliated county. In Cedar County, River Bend Transit (RBT) provides transit services to persons with disabilities, the elderly, and the general public According to RBT’s website, “RBT was Iowa’s first regional consolidated transit system, starting public transit operations in 1978.” In Johnson County, transit services are provided by Johnson County SEATS.⁸ (see <https://riverbendtransit.org/about>).

There are a few rural transit services that operate primarily using volunteers. One such example is OATS Transit in Missouri (see <https://www.oatstransit.org/annual-report>). Although such a volunteer-supported service does not appear likely for West Branch,

investigating prospects for greater use of volunteers to provide mobility should be kept in mind over the planning period.

While West Branch is not expected to have a sufficiently large population to support conventional bus transit services over the period of this comprehensive plan, a few city residents do currently participate in paratransit services through a University of Iowa (UI) vanpool program. According to a representative of the UI’s Parking and Transportation Division, “Over the years we have had three (3) vanpools from West Branch. One maxi-van and two mini-vans. The maxi-van was the first to start and is the only one that is still operating.” That current maxi-van operates at 7:30 AM daily from West Branch, returning from Iowa City at 4 PM. Vanpool usage data for 1996 through early 2019 are available in a spreadsheet provided to city staff as part of preparing this plan update. Promoting such low-cost and environmentally friendly service that is provided by employers should be a city objective.

Taxicab and transportation network companies (such as Uber and Lyft) currently provide service to and from nearby communities. As technology develops, autonomous vehicles may provide mobility services for West Branch residents.

Freight.

The efficient movement of goods is one of the keys to effective competition in national and world markets. As a result, policy makers, industry specialists, and transportation planners have recognized that an efficient freight system is fundamental for economic development in cities such as West Branch. This section focuses on the three freight modes which are most active in the West Branch: truck, rail, and air. The freight modes are described separately, but the different modes are often used in combination, which is referred to as intermodal freight transport.

Interstate 80 passes through West Branch. This highway provides a ground connection to the rest of Iowa, the region, and the nation. Air freight service is available through the Cedar Rapids and Moline airports. The rail system that passes through the region may also be a

⁸ Current information on paratransit services and funding should be obtained as needed.

valuable but more limited resource. Iowa Interstate Railroad operates an east-west line that runs approximately 2.5 miles south of West Branch.

Business establishments need attention to freight pick-up and delivery services in order that they be efficient and reliable. Often a city needs to give attention to loading and unloading areas and to special regulations for truck activity. West Branch should be alert to freight needs and emerging freight transport technologies (such as those anticipated in the region by Google) as it plans, designs and administers its street facilities.

Airport.

The Eastern Iowa Airport in Cedar Rapids provides commercial air transportation services for West Branch. Recently thirty-five daily departures (with 14 non-stop destinations) have provided service from American, United, Delta Frontier and Allegiant Air. The Airport also features increasing cargo activity with Fed Ex, DHL, and UPS and serves an active general aviation community. The Airport is owned by the City of Cedar Rapids and operated by the Cedar Rapids Airport Commission. The Airport is located between Cedar Rapids and Iowa City along Interstate 380.⁹

The Quad City International Airport also provides commercial air transportation services for West Branch. The Quad City International Airport is located in Moline, Illinois and currently has four airlines serving 11 nonstop hubs or connecting cities.¹⁰ The airport is owned by Rock Island County and is operated by the Metropolitan Airport Authority. The airport also has cargo activity with Fed Ex, DHL and UPS. General aviation airports are located in Iowa City, Muscatine, and Tipton.

Intermodal Facility.

Railroads through their connections with other transportation modes are involved in many intermodal traffic movements. Rail typically provides the long-haul portion of the movement and at an intermodal facility the freight is transferred to another mode for door-to-door delivery. The closest rail facility to the City of West Branch is located in West Liberty, Iowa. The Iowa Interstate Railroad passes through West

⁹ See <https://ffivcid.com/airlines-nonstops/>.

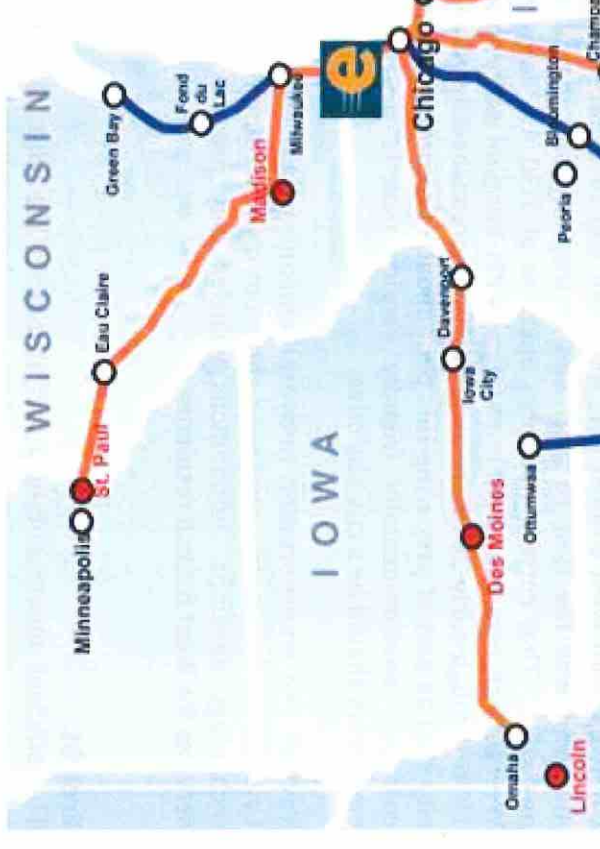
¹⁰ See <https://www.qcairport.com/airlines-serving-mil.html>.

Liberty although its intermodal service is currently available only in Council Bluffs and Blue Island, IL.¹¹

West Branch Intercity Passenger Transportation Greyhound.

The closest Greyhound station to West Branch is in Iowa City. One bus leaves each day for Chicago with tickets costing \$43 per seat in 2019. One bus leaves each day for Omaha; tickets cost from \$79 to \$87.¹² Below is a map of the regional Greyhound routes from Iowa City:

Map 9.1. Regional Greyhound Routes From Iowa City



Source: Greyhound Corporation.

¹¹ See <https://iaisrr.com/ship-with-iais/intermodal/>.

¹² See <https://www.greyhound.com/en/e-commerce/schedule/>.

Burlington Trailways.

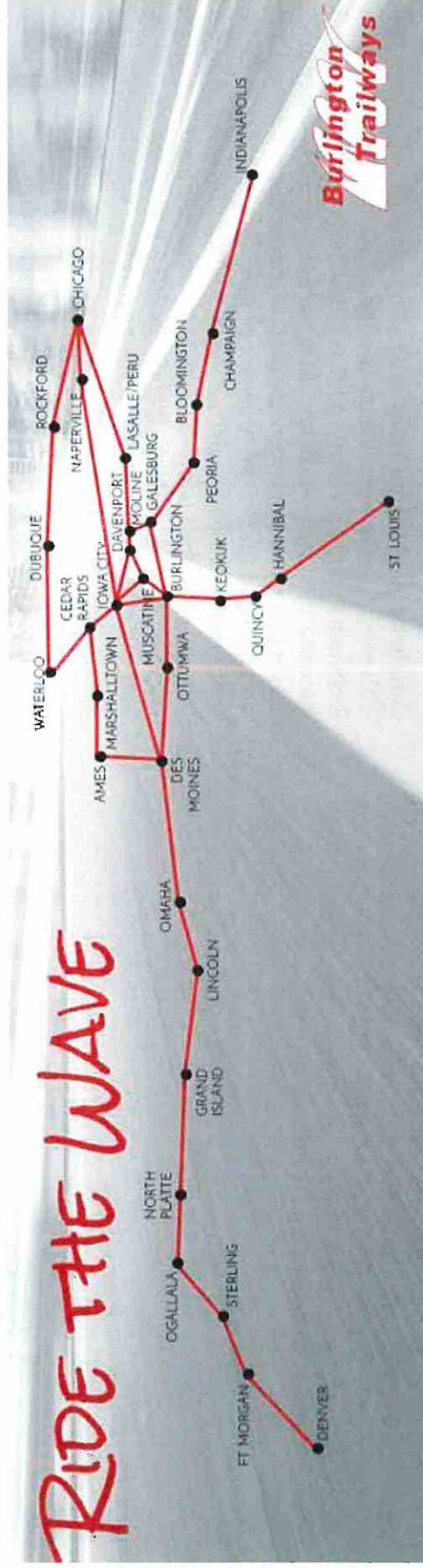
The closest Trailways stations to West Branch are Iowa City and Cedar Rapids. Its intercity options have had the greatest numbers of destination and frequencies.¹³ The table below summarizes the recent prices and service frequencies from Cedar Rapids and Iowa City to Chicago, Des Moines and Minneapolis:

Table 9.1. Recent Prices and Service Frequencies

Origin	Destination	Price	# Daily
Cedar Rapids	Chicago	\$57	3
Cedar Rapids	Des Moines	\$34	1
Cedar Rapids	Minneapolis	\$99	1
Iowa City	Chicago	\$32	4
Iowa City	Des Moines	\$25	5
Iowa City	Minneapolis	\$80	2

Source: Unknown

Map 9.2. Routes for Trailways extend to Denver, St. Louis and Indianapolis.



Source: Burlington Trailways

¹³ See <https://webstore.trailways.com/buy-bus-tickets/a>.

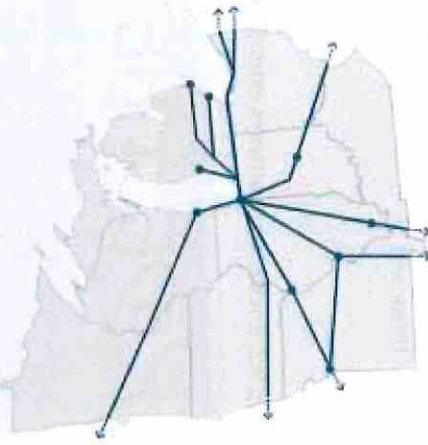
Megabus.

Megabus (Windstar Lines) is a newer carrier accessed in Coralville (at the Coralville Transit Intermodal Facility, 906 Quarry Rd., Coralville, near Iowa City) with daily service to Chicago, Des Moines, and Omaha. These buses have a variety of passenger amenities. Fares are variable.¹⁴

Passenger Train.

The closest train station is in Mt. Pleasant, where one can catch Amtrak's California Zephyr line. Amtrak travels daily east to Chicago (\$41) and west to Denver (\$108) and Oakland (\$203).¹⁵ Daily service is also newly available from Chicago to Moline with fares in 2019 starting at \$42.¹⁶ A regional map for Amtrak follows:

Map 9.3. Amtrak Regional Map



Source: Amtrak

Transportation Projects.

Transportation is extremely important to the citizens of West Branch. The primary transportation mode is vehicle travel on streets and roads. The public input survey found that the majority of residents supported the replacement of College Street Bridge, opened 11/21/19, followed by repaving 4th Street and repaving County Line (Johnson-Cedar) Road. Sidewalks were the second mode of transportation cited

by citizens as in need of attention. Residents would like to see sidewalks throughout the entire community, and identified the following areas for sidewalk improvement: College Street Bridge, College Street, Poplar and Oliphant, downtown, Cedar Street, Johnson Street, and pointed out the need to build missing sidewalks and address steps (elevations). City staff can provide a detailed map of street conditions in the City of West Branch. This map should be used in identifying future street projects within the City.

Another project identified as needed is a connection between Pedersen Valley and Greenview. When the land that had been in agriculture between Pedersen Valley and Greenview is developed into residential housing, the City Council should ensure that the developer provides a street connection between the two neighborhoods. This will allow for an improved public safety response time for residents in Greenview, and provide for better circulation of traffic in this area. A majority of survey responses collected on this issue supported a connection between the two neighborhoods. In 2019 it was anticipated that the extension of Orange Street in the near future would satisfy this need for connection.

Transportation Technology and Electric Vehicles.

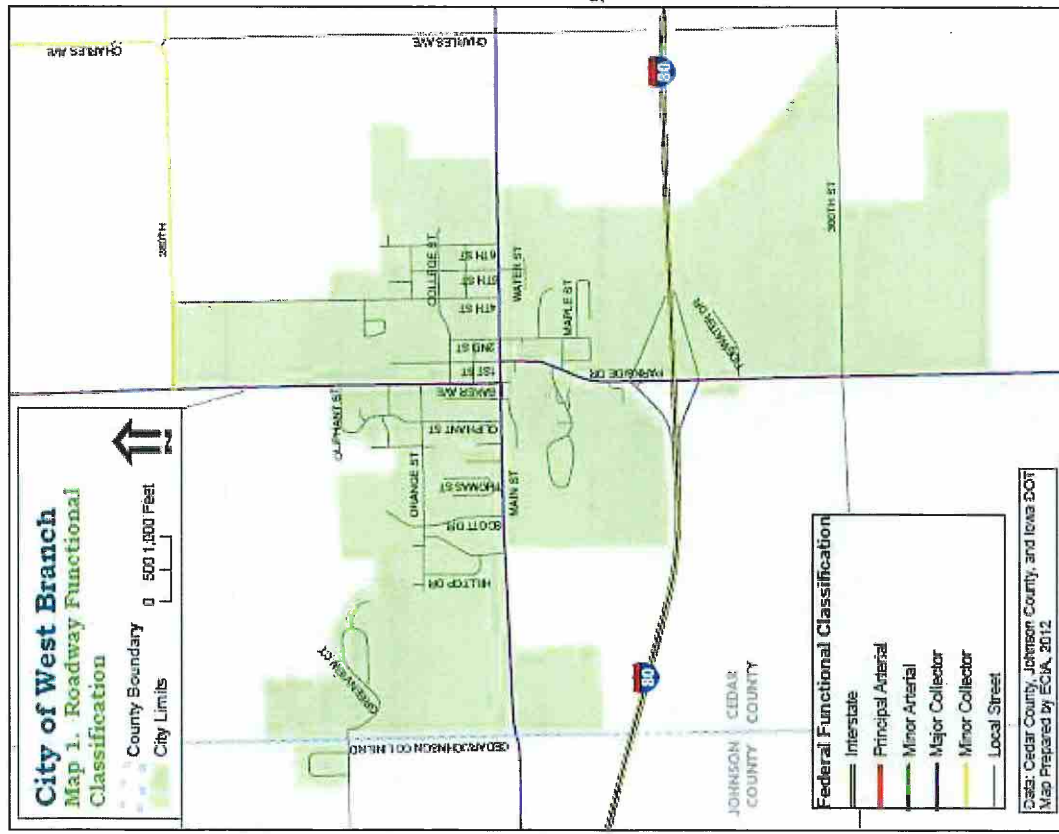
At their joint meeting of October 24, 2017, the Commission and the City Council discussed emerging changes in the nation's vehicle fleet and the desirability of quickly responding to those anticipated changes, particularly to the emergence of greater numbers of electric vehicles. As a result, the Mayor agreed to explore with Alliant Energy and potential local partners the prospects for installation of electric charging stations in West Branch at an early date, and the publicizing of station locations as a city attraction. While his exploration was ultimately unsuccessful, as transport technology such as automated vehicles continues to evolve the city should keep abreast of new developments to track mobility opportunities and to determine their impact on city facilities.

¹⁴ For information see <https://us.megabus.com/route-guides/des-moines-to-iowa-city-coralville-bus>.

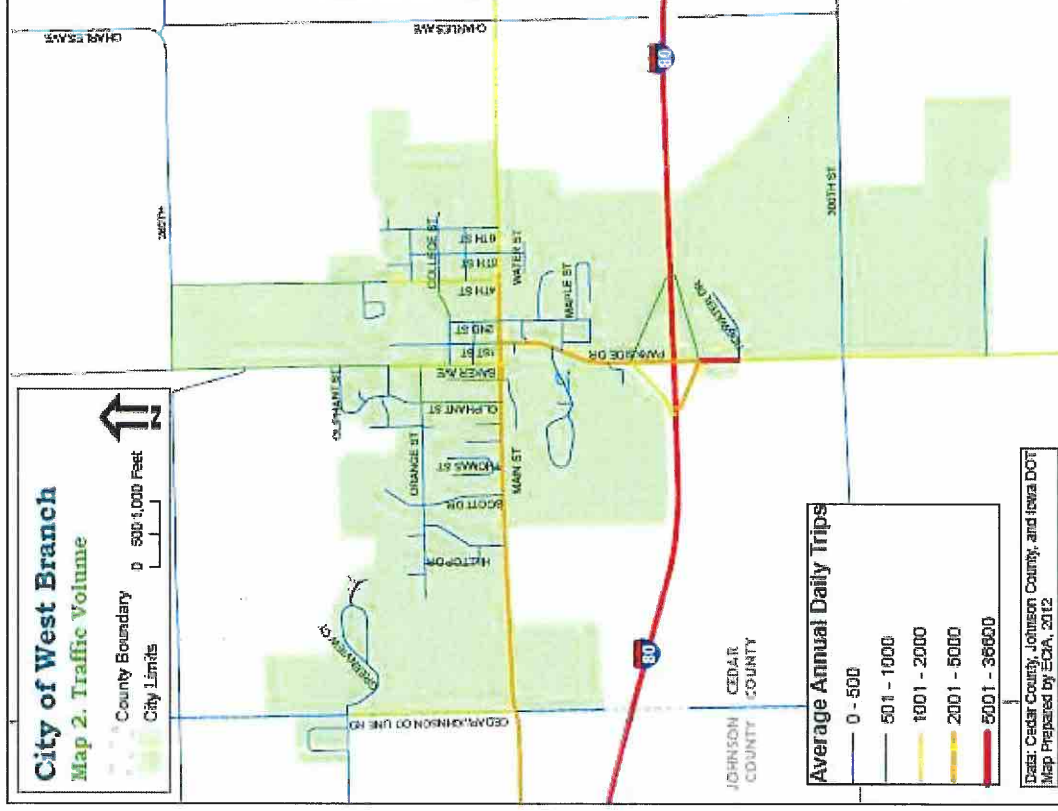
¹⁵ See <https://iowadot.gov/iowarail/iowa-Passenger-Rail/Todays-Passenger-Rail> and

¹⁶ See <https://www.amtrak.com/stations/ml>. Also <https://www.amtrak.com/midwest-train-routes>.

Map 9.4. West Branch Roads by Functional Classification



Map 9.5. AADT for West Branch Area Roads.



City of West Branch
Map 3. Vehicle Crashes

County Boundary
City Limits

0 500 Feet

Vehicle Crashes 2008-2010

- Crashes 2010
- Crashes 2009
- Crashes 2008

Map 3. Vehicle Crashes
 Cedar County, Johnston County, and Iowa DOT
 Map Prepared by EIC/A, 2012

80-12820



MEETING DATE: July 25, 2023

AGENDA ITEM: Design Standards Discussion

PREPARED BY: Adam Kofoed, City Administrator

DATE: July 19, 2023

DISCUSSIONS FOR JULY 25, 2023:

1. Parking Minimum Reductions
2. Landscape Design
3. Floor and Exterior Diversity
4. Commercial Façade Minimums
5. When to invite developers for comments

BACKGROUND:

The Design Committee met last month. Here were main topics discussed for further consideration.

1. Visitability Standards (P and Z Approved)
2. Accessory Dwelling Units (P and Z Approved)
3. Parking Minimum Reduction Authority (Needs language stating why exceptions should be given)
4. Landscape Design (Drafted)
5. Floor and Exterior Diversity (Drafted)
6. Front Setback Exceptions to discourage snout houses but not ban them. (Drafted)
7. Street Design
8. Commercial Façade Minimums
9. Housing Incentive to Encourage Front Porches since they are ideal for community engagement but add cost to homes.
10. Prevent lot mergers

IMPLEMENTATION:

Each month, I will try to add a new section for the commissions review. When that section is fully approved by the board I will hold onto it, until the final design standard is adopted. Items marked in yellow in draft ordinances, I need commission direction or it could be a divisive topic when administering the ordinance.

West Branch Ideas:

Landscaping Required: All new developments, shall provide the following minimum number and size of landscape plantings based on the minimum required open space for the development. The following is the minimum requirement of trees and shrubs, by number and size, and type of ground cover. Street trees planted in public street right-of-way subject to approval by the City shall not be counted toward fulfillment of the minimum site requirements set forth below. Plant species to be used for landscaping shall be acceptable to the City that are not considered a nuisance or undesirable species, such as trees with thorns, cottonwood or cottonbearing poplars, elm trees prone to Dutch Elm Disease, box elder, ash, and silver maple. Existing trees and shrubs to be retained on site may be counted toward fulfillment of the landscaping requirements.

A. Minimum requirements at the time of planting - Two trees minimum or one tree of the following size per 1,500 square feet of open space, whichever is greater: 40 Percent 1½" - 2" caliper diameter. Balance 1" - 1½" caliper diameter. (Evergreen trees shall not be less than three feet in height.)

B. Minimum requirements at the time of planting - six shrubs, or one shrub per 1,000 square feet of open space, whichever is greater.

C. To reduce erosion all disturbed open space areas shall have ground cover of grass or native vegetation which is installed as sod, or seeded, fertilized and mulched.

May Comments- Keep the same and have attorney and engineer review before adoption

Floor Plan and Exterior Diversity: All new development, shall provide a different floor and exterior plan every third building.

A. Minimum requirement exterior diversity: Every third home in a block must be of a different floor and exterior pattern. Must be greater than 10% different in height, size, awnings, porches, etc. floor plan, and other exterior features. The building pattern may be used again once the development intersects a perpendicular residential or collector street.

B. Minimum requirements floor plan diversity. Every third home in a block must be of a different floor and exterior pattern. Must be greater than 10% different in indoor building layout such as kitchen, bedroom, restrooms, and other room locations. The building pattern may be used again once the development intersects a perpendicular residential or collector street.

May Comments- Find a way to better define exterior pattern such as exterior style or geometrical. Kevin O. our attorney is researching language used in Coralville for new development.

Residential Livability Flexible Front Yard Allowances: It is the intent of the City's 2019-2020 Comprehensive Plan to encourage community interaction and preserve its small town feel through zoning design techniques.

- A. Living Pedestrian Space Minimum Requirements: The base of a living quarter such as a front door, porch, or other pedestrian friendly entrance is allowed a minimum fifteen (15) foot front setback. Garages, storage spaces, and other non-pedestrian friendly entrances must have a twenty-five (25) foot minimum front setback.

The board heavily encouraged adopting the above section as it encourages but doesn't force an action. Legal Approved

Would like developers to be at a meeting before these are adopted.

North Liberty

169.10 DESIGN STANDARDS.

This section is intended to provide consistent high-quality general design standards for the community.

1 Purpose. The purpose of this section is to ensure high-quality development to enhance community image and quality of life.

2. Requirements for All Districts. The following requirements shall be observed for development in all districts:

A. Building design shall be visually harmonious and compatible with the neighborhood character.

B. Buildings located on property with double frontages shall have similar wall design facing both streets.

C. Buildings shall have a consistent architectural style throughout the development on each lot, as defined by repetition of exterior building material and colors, and architectural elements.

D. Except for RS RD, R-MH and ID districts, color schemes shall be primarily based on earth tones. Earth tone colors include colors from the palette of browns, tans, greys, greens, and red. Earth tone colors shall be flat or muted. Building trim and accent areas may feature non-earth tone and brighter colors. In any district, the use of high intensity colors, neon or fluorescent color and neon tubing is prohibited.

E. Special attention shall be taken to incorporate external mechanical equipment into the design such that it does not detract from the aesthetics of the site and building.

F. Except in the R-MH district, a minimum roof pitch of 5:12 shall apply to gable, hip, or shed roofs and there shall be a minimum roof overhang at the eaves of 12 inches. This does not apply to portions of a roof that are separate from the structure's primary roof. Metal roofs shall not be corrugated or similar appearance. The color of the roof shall be visually harmonious and compatible with the building color scheme.

G. Roof top equipment shall be screened.

H. Reflective surfaces that may cause glare or traffic hazards are not acceptable.

3. Requirements for Non-Residential (including mixed-use) Development in Residential Districts. The following requirements shall be observed for all non-residential development in the RS, RD, RM and ID districts:

A. Minimum required masonry on front and corner side yard building elevations is 60%. Required masonry does not apply to accessory structures.

B. For exterior walls not composed of masonry products, wall coverings shall be wood and/or vertical or horizontal grooved siding or lapped siding, or materials of similar appearance.

4. Requirements for Development in Commercial Districts.

A. Commercial zoning districts are intended to enhance public welfare by providing for safe, convenient, high quality pedestrian-oriented commercial centers that contribute to community identity as energetic and attractive focus points. Through development and redevelopment within these districts, the city recognizes the importance of creating high quality development areas to the quality of life for residents of the city, the impact quality development has on the image of the community, and the need to provide restrictions and guidelines to enhance visual appearance and functionality. The objectives addressed through these regulations include the following:

(1) Design. To achieve appealing aesthetic design through high quality architecture and construction, with attention to placement, relationship, and orientation of structures and amenities to provide both internal cohesiveness and compatibility with surrounding uses.

(2) Walkability. To achieve overall development patterns that encourage walking and reduce dependence on the automobile to travel from one business to another, and so reduces the dominance of the automobile within the development.

(3) Human-scale Activity. To achieve a sense of place by emphasizing pedestrian interaction with commercial uses rather than sprawling automobile-dominated designs, both in building architecture and public or private outdoor areas.

(4) Compatible Uses. To achieve the right blend of uses, compact and well-designed, that complement each other and provide cohesive overall developments.

B. The following requirements shall be observed for all development in commercial districts:

(1) Site Layout Requirements.

(a) Pedestrian Areas. Each development shall provide a complete network of paths, plazas, and open spaces that interconnect building entrances, parking, sidewalks, other properties, and other pedestrian amenities. These pedestrian areas are expected to constitute a significant portion of development area, and may include plazas, special paving areas between parking and entrances, and outdoor eating patios. Additionally, portions of pedestrian areas should be at least partly covered so that users are protected from rain and intense sun. New developments will be required to connect to paths and sidewalks established by previously-approved developments.

(b) Outdoor Infrastructure Design. Each development shall provide outdoor lighting fixtures, integrated street pavers or patterns, and landscaping that reinforces quality building design and blends with previously-approved developments, when appropriate. Design elements may include decorative lighting, seating with benches, low walls, planters, enhanced paving techniques, and other features complimentary to the development.

(c) Parking Areas. Parking areas shall consist of areas that are aesthetically pleasing, landscaped to screen public views, and located so as not to be the dominant feature along any street or within any development. The use of alternate materials to designate pedestrian areas

within or adjacent to parking lots is encouraged, and pedestrian areas shall be separated from vehicular traffic with landscaping, decorative posts, special paving, or other measures to clearly define the pedestrian spaces. Property owners are encouraged to establish shared parking zones among uses on one or more lots.

(2) Building Materials and Design Requirements.

(a) Materials. Minimum required masonry on all building elevations is 60%. Exterior walls not composed of masonry products shall not be covered with ribbed metal siding commonly referred to as corrugated metal.

(b) Design. Buildings and building features shall be sized and detailed appropriately for pedestrian use. Projected or recessed doorways and windows, awnings, and other architectural features may be used to achieve this design. Traditional strip-retail type frontages featuring long flat frontages with regularly spaced doors and unbroken expanses of concrete approaching the storefronts are specifically disallowed. Side and rear elevations shall be comprised of the same materials and reasonably similar in character and quality as the front elevation unless screened from view from all public streets and residential areas by topography differences, landscaping materials, or other screening devices, in which case building material may be concrete block or tilt-up concrete panels.

5. Requirements for Development in Industrial Districts. The following requirements shall be observed for development in the industrial districts:

A. Minimum required masonry on front and corner side yard building elevations is 25%. Notwithstanding the foregoing, buildings on lots abutting Penn Street shall be composed of not less than 90% masonry products on the entire wall(s) facing Penn Street. If the building is canted or angled on the lot, both sides facing Penn Street shall be composed of not less than 90% masonry products. If the building is located on a corner lot with one side abutting Penn Street, the building wall facing the side street shall meet the 25% masonry requirement in addition to the 90% Penn Street requirement. In all cases, building sides facing exterior lot lines and not composed of masonry shall be heavily screened with trees and shrubs.

B. For exterior walls not composed of masonry products, stucco, wood siding, premium-grade vinyl siding if installed horizontally, or other materials similar in appearance are preferred.

6. Requirements for Development in the Public District. The following requirements shall be observed for development in the public district:

A. Minimum required masonry on front and corner side yard building elevations is 25%. Notwithstanding the foregoing, buildings on public works campuses screened from public view are not subject to the 25% required masonry.

B. For exterior walls not composed of masonry products, stucco, wood siding, premium-grade vinyl siding if installed horizontally, or other materials similar in appearance are preferred.

169.11 ENFORCEMENT OF DESIGN STANDARDS.

1. The Commission shall have the following authority related to this section:

A. To recommend denial of any site plan that does not conform to all regulations of this section, including elevation detail.

B. To recommend modifications to building materials, architectural features, or orientation on the site, beyond those explicitly enumerated in this section, considered to be consistent with the goals and objectives of the City's Comprehensive Plan.

2. The Council shall have the following authority related to this section:

A. To deny any site plan that does not conform to all design standards in this code, including elevation detail.

B. To require modifications to building materials, architectural features, or orientation on the site beyond those requirements explicitly enumerated in this section, considered to be consistent with the goals and objectives of the City's Comprehensive Plan, or to deny any site plan if such modifications are not made by the petitioner.