110 N. Poplar Street • PO Box 218 • West Branch, Iowa 52358
(319) 643-5888 • Fax (319) 643-2305 • www.westbranchiowa.org • city@westbranchiowa.org

PLANNING AND ZONING COMMISSION MEETING
Tuesday, May 23, 2017 • 7:00 p.m.
West Branch City Council Chambers, 110 N. Poplar St.
Council Quorum May Be Present

1. Call to Order
2. Roll Call
3. Approve Agenda/Consent Agenda/Move to action.
    a. Approve minutes from the March 28, 2017 Planning and Zoning Commission Meeting.
    b. Approve minutes from the April 18, 2017 Planning and Zoning Commission Meeting.
4. Public Hearing/Non-Consent Agenda
    a. Approve Pedersen Valley Part Three - Phase One, Lot 21 site plan./Move to action.
    b. Approve Cubby Park Improvements - Phase 2 Check Plans./Move to action
    c. Approve/Discussion on Complete Streets
    d. Approve/Discussion on Urban Tree Policy
5. City Staff Reports
6. Comments from Chair and Commission Members
7. The next regularly-scheduled Planning and Zoning Commission Meeting – July 25, 2017 at 7:00 p.m.
8. Adjourn

(These minutes are not approved until the next Commission meeting.)

City of West Branch Planning & Zoning Commission Meeting
March 28, 2017
West Branch City Council Chambers, 110 North Poplar Street

Chairperson John Fuller opened the meeting of the Planning & Zoning Commission at 7:01 p.m. welcoming the audience and following City Staff, Deputy City Clerk Leslie Brick, Zoning Administrator Terry Goerdt, and Park & Recreation Director Melissa Russell. Interim City Administrator Nick Shimmin arrived at 8:00 p.m. Commission Members LeeAnn Aspelmeier, Ryan Bowers, Sally Peck, Gary Slach and Emilie Walsh were present. Commission Member Tom Dean was absent.

Approve Agenda/Consent Agenda/Move to action.
Approve the agenda for the March 28, 2017 Planning and Zoning Commission Meeting.
Bowers proposed that the Hilltop Site Plan be changed to a move to action item. Aspelmeier said she would second that proposal.
Motion by Bowers, second by Aspelmeier to approve the agenda with the suggested change. AYES: Bowers, Aspelmeier, Fuller, Walsh, Peck, Slach. NAYS: None. Absent: Dean. Motion carried.
Approve minutes from the February 28, 2017 Planning and Zoning Commission Meeting.
Motion by Bowers, second by Slach to approve the minutes. Absent: Dean. Motion carried on a voice vote.

Public Hearing/Non-Consent Agenda

<u>Approve Hilltop Drive Site Plan./Move to action.</u>
City Engineer Dave Schechinger reviewed some changes to the plan based on resident feedback to preserve parking on Hilltop Drive. Schechinger said the developer had addressed all of the concerns related to parking, landscaping, and storm water as previously expressed in previous meetings. Aspelmeier commented that she was happy that the parking concerns were addressed. Matt Adam, attorney with Simmons, Perrine, Moyer, Bergman, PLC., and developer for Hilltop Drive was present for questions.

Mike Owen, 166 Hilltop Drive thanked the developer for the modifications but stated that he felt more changes could be made. Owen also expressed his concern over what he felt was a lack of communication on this development between the city and the affected residents. Owen went on to state that although he was in favor of development, he was not in favor of this site plan. Owen asked the commission to defer making a decision at this meeting and give this project additional consideration.

Kris McManis, 606 W. Orange Street expressed his concern on the volume of residents on the private drive portion of the site plan and cited that light pollution was his main concern. McManis said the additional parking spots for the private drive face the rear of his house and said that headlights would shine into his home on a regular basis.

Jean McManis, 606 W. Orange Street, stated that flooding issues in this area are her concern. McManis commented that there is a low spot at the rear of her property which holds water now and that she is concerned that the run off will be worse. She also felt this plan is too dense for the size of the lot.

Brian Driscoll, 701 W. Orange Street spoke in favor of development, but reiterated the *right* development. He also stated the obvious that with development comes traffic. Driscoll said the reason he moved his family to West Branch was to be in a thriving community with a younger population. He encouraged the commission to make sure that some of the past issues with other developments don't repeat themselves, but not to hold development up for a developer who has committed to doing things right.

Aspelmeier questioned the number of units the property is zoned for compared to the number proposed for this development. The developer responded that the maximum number of units per lot is twelve and that there are three lots, totaling 36 units. Their proposal is nineteen units. Fuller asked Schechinger to address resident concerns regarding flooding. Schechinger said that an existing 6-8 inch drain pipe would be upgraded to an 18 inch drain pipe that will carry the water underground to Lions Field. Bowers asked to review details on the landscaping plans and if they addressed the light pollution concern.

The developer responded that the additional parking spaces could be removed if that was an issue. They were added to accommodate less on street parking on Hilltop. Goerdt suggested adding arborvitaes as a possible screening. Walsh asked the developer if they would accommodate this request. The developer responded that they had met all of the city requirements and were not prepared to accommodate additional requests at this time.

Slach gave his comments on the treatment of developer's and said that if the developer meets all of the requirements set forth by the city and the city votes the project down, it may deter the developer to return.

Motion by Bowers, second by Peck to approve the revised Hilltop Drive Site Plan as proposed. AYES: Bowers, Peck, Aspelmeier, Fuller, Walsh, Slach. NAYS: None. Absent: Dean. Motion carried.

Approve Croell Redi-Mix Grading and Erosion Control Plan./Move to action.
Motion by Aspelmeier, second by Bowers to approve the Croell Site Plan. AYES: Aspelmeier, Bowers, Slach, Peck, Walsh, Fuller. NAYS: None. Absent: Dean. Motion carried.

Discussion on Update to the West Branch Comprehensive Plan.
Fuller provided an update on the comprehensive plan review. He also provided information on peer cities and proposed a community tree policy for West Branch. Fuller asked the commission members to review the information and prepare to discuss at the next meeting. Fuller also mentioned a recent discussion regarding street widths in new developments and proposed the city adopt a complete streets policy. Councilperson Tim Shields addressed the commission in favor of a review of the city's current ordinance on street widths. City Engineer Dave Schechinger also spoke to the subject and suggested a master transportation plan which would identify where the city's future bike trails and collector streets would be so that future developers would know what to expect.

Discussion on Pedersen Valley Park Improvements – Phase 1 Preliminary Flood Mitigation Plan and Check Plans.
Slach said he was disappointed in the park layout of the proposed ball fields. He said the voters voted on three ball diamonds, one adult and two little league fields. Park & Recreation Director Melissa Russell clarified that the third ball diamond was a functioning field, without irrigation. Russell stated that this area could be used for a future swimming pool. Slach again mentioned that the voters for three ball fields and stated the city should have done its homework to see if three ball diamonds would work in this area. Peck said she felt that she voted on a 'concept' of a park plan which may or may not have included a swimming pool or a certain number of ball fields. Schechinger asked Russell if the engineer was planning on doing on-site mitigation or if credits were to be purchased. Russell said she believed that on-site was planned. Fuller asked if further discussions were being held on this topic and suggested that this topic be discussed at a future meeting.

Discussion on Lot 21 of Pedersen Valley III- Phase 1 site plan.
Brian Shay, Coohey Construction described his site plan for lot 21 on Pedersen St. Shay said he would like to construct a three-plex on the vacant property just south of the funeral home. Bowers asked if this project would need the normal site plan review. City Engineer Dave Schechinger said that per Chapter 173, site plan review and approval was required for any dwelling more than two-family. Fuller asked if the builder had a ballpark figure for cost for the units. Shay said they were targeting the $160,000-$170,000 but would ensure a quality product.

CITY STAFF REPORTS

Zoning Administrator Terry Goerdt mentioned that several building permits had been submitted recently and it would be another busy building season.

COMMENTS FROM CHAIR AND COMMISSION MEMBERS

Fuller requested a special meeting for April 18, 2017 at 7:00 p.m.

Adjourn

Motion by Bowers, second by Walsh to adjourned the Planning & Zoning Commission Meeting. Meeting adjourned at 8:46 p.m.

(These minutes are not approved until the next Commission meeting.)

City of West Branch Planning & Zoning Commission Meeting
April 18, 2017
West Branch City Council Chambers, 110 North Poplar Street

Chairperson John Fuller opened the meeting of the Planning & Zoning Commission at 7:00 p.m. welcoming the audience and following City Staff, Deputy City Clerk Leslie Brick, Zoning Administrator Terry Goerdt, Public Works Director Matt Goodale, Park & Recreation Director Melissa Russell, and City Engineer Dave Schechinger. Commission Members Ryan Bowers, Gary Slach, Tom Dean were present. Commission Member Sally Peck arrived at 7:07 p.m. Commission Member LeeAnn Aspelmeier and Emilie Walsh was absent.

Approve Agenda/Consent Agenda/Move to action.
Approve the agenda for the April 18, 2017 Planning and Zoning Commission Meeting.
Motion by Bowers, second by Slach to approve the agenda. Absent: Aspelmeier, Peck and Walsh. Motion carried on a voice vote.
Approve minutes from the March 28, 2017 Planning and Zoning Commission Meeting.

- Minutes were not provided in the packet for approval.

Public Hearing/Non-Consent Agenda
Approve Pedersen Valley Park Improvements – Phase 1 Preliminary Flood Mitigation Plan and Check Plans./Move to action.
Nate Kass of Fehr Graham explained the flood mitigation and check plans for commission consideration. Kass further explained that there would be a detention pond for onsite storm water management. Commission member Dean expressed his concern for the parking spaces near the last home on Scott Drive and asked if any notification had been given to affected residents showing the current plans. Park & Recreation Director responded that notification had not been done since the vote. Kass suggested that vegetative screening could be added to avoid any issues. Fuller asked how the number of parking spaces were decided for the site and Kass replied that parking was maximized based on available space. Goerdt expressed his concern with the number of restroom facilities and asked if the number met state requirements. Kass was not able to comment so Goerdt said he would do some research and provide information at the next meeting.
Motion by Peck, second by Bowers to approve Pedersen Valley Park Improvements-Phase 1 Preliminary Flood Mitigation Plan and Check Plans. AYES: Peck, Bowers, Fuller, Slach. NAYS: Dean. Absent: Aspelmeier and Walsh. Motion carried.

Approve Pedersen Valley Park Improvements – Phase 1 Alternative Field Option./Move to action
Kass noted that a third permanent field was added to the plan based on previous comments by the commission and the city council members. Peck asked if there were adequate parking spaces to accommodate three ball fields. Kass felt there would be and that additional overflow parking would be available on Gilbert Drive. Russell clarified that a swimming pool was not on the ballot for the park vote, but was in the community survey. Russell went on to further explain that the park was being planned for a community and banquet center facility and library in addition to the ball fields.
Motion by Bowers, second by Fuller to approve Pedersen Valley Park Improvements-Phase 1 Alternative Field Options. AYES: Bowers, Fuller, Dean, Slach. NAYS: None. Abstain: Peck.
Absent: Aspelmeier and Walsh. Motion carried.

Discussion on Complete Streets

Fuller along with one of his students shared information on the comprehensive plan revision topics including peer cities. Fuller passed out information to the commission for their review and future discussion topics.

Discussion on Urban Tree Policy

Fuller suggested the addition of a tree policy to the comprehensive plan.

Approve Proposed revision to peer cities for West Branch Comprehensive Plan./Move to action

Fuller and his student discussed the research done on peer cities to determine the criteria for making a revision to the peer cities list. The commission had no objections.

Motion by Bowers, second by Dean to approve proposed revision to peer cities for West Branch Comprehensive Plan. AYES: Bowers, Dean, Slach, Peck, Fuller. NAYS: None. Absent: Aspelmeier and Walsh. Motion carried.

CITY STAFF REPORTS

Brick reminded commission members of the upcoming Intro to Planning & Zoning training in Davenport next month.

Schechinger reported that recently three new properties had gone through the Residential Lot Site plan and he felt the new program is a success and thanked the commission for their work on the project.

COMMENTS FROM CHAIR AND COMMISSION MEMBERS

Slach suggested that the traffic flow going to and from the new Cubby Park be looked into and stated again the need for a connection to the Greenview addition. Currently, Greenview residents cannot walk into town.

Fuller suggested that a communication plan be put into place for city and developer projects to help affected residents be aware of what is happening around them. Goerdt suggested that signs be posted by the party indicating the planned area of development such like they do in other communities. Goerdt suggested that maybe that could be added as a requirement. Goerdt also mentioned that the City's website would be a great place for that information.

Adjourn

Motion by Bowers, second by Slach to adjourned the Planning & Zoning Commission Meeting. Meeting adjourned at 8:45 p.m.

SITE PLAN

PEDERSEN VALLEY PART THREE - PHASE ONE, LOT 21

WEST BRANCH, IOWA

CURRENT ZONING: RB–1

LOT AREA	11,507 SF	(100%)
BUILDING AREA	3,100 SF	(26.9%)
PAVING AREA	1,820 SF	(15.8%)
TOTAL IMPERVIOUS AREA	4,920 SF	(42.8%)
OPEN SPACE	6,580 SF	(57.2%)

BUILDING CHARACTERISTICS:
1 – 3 PLEX BUILDING (3 BR EA)
TOTAL BUILDING SPACE = 3,100 SF

SETBACK REQUIREMENTS:
FRONT YARD = 25 FEET
REAR YARD = 25 FEET
SIDE YARD = 8 FEET

PARKING REQUIREMENTS:
2 SPACES PER DWELLING UNIT
3 DWELLING UNITS = 6 SPACES
TOTAL PARKING REQUIRED = 6 SPACES
TOTAL PARKING PROVIDED = 6 SPACES

TREE REQUIREMENTS:
1 / 1500 SF OPEN SPACE
6,580 SF OPEN SPACE
TREES REQUIRED = 5
TREES PROVIDED = 5

SHRUB REQUIREMENTS:
1 / 1000 SF OPEN SPACE
6,580 SF OPEN SPACE
TREES REQUIRED = 7
TREES PROVIDED = 7

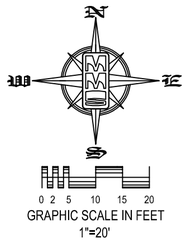
ALL GROUND LEVEL MECHANICAL AND UTILITY EQUIPMENT SHALL BE SCREENED FROM PUBLIC VIEW

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

OWNER/APPLICANT:
BRIAN SHAY
1905 STONE VALLEY DRIVE
NORTH LIBERTY, IA 52317

KEYNOTES

NUMBER	KEYNOTE	DETAIL
101	REMOVE EXISTING TREES	
102	INSTALL 1 PCC STEP: 2–6" RISERS INTO ENTRANCE	
103	INSTALL 5" PCC DRIVEWAY	
104	INSTALL 5" PCC SIDEWALK IN ACCORDANCE WITH THE CITY OF WEST BRANCH SPECIFICATIONS	
105	REMOVE 2 SY PCC SIDEWALK	
106	GRIND EXISTING CURB FOR DRIVEWAY PAVING	
107	INSTALL RETAINING WALL. OWNER TO PROVIDE WALL DESIGN TO CITY PRIOR TO INSTALLATION. COORDINATE WITH FENCE INSTALLATION.	
108	INSTALL 42" HIGH BLACK CHAIN LINK FENCE	



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.

KELLY J. BECKLER, P.E. Iowa Lic. No. 14624 — 20___

My license renewal date is December 31, 20___.

Pages or sheets covered by this seal:

SEAL

LICENSED PROFESSIONAL ENGINEER — KELLY J. BECKLER 14624 — IOWA

DRAFT

STANDARD LEGEND AND NOTES

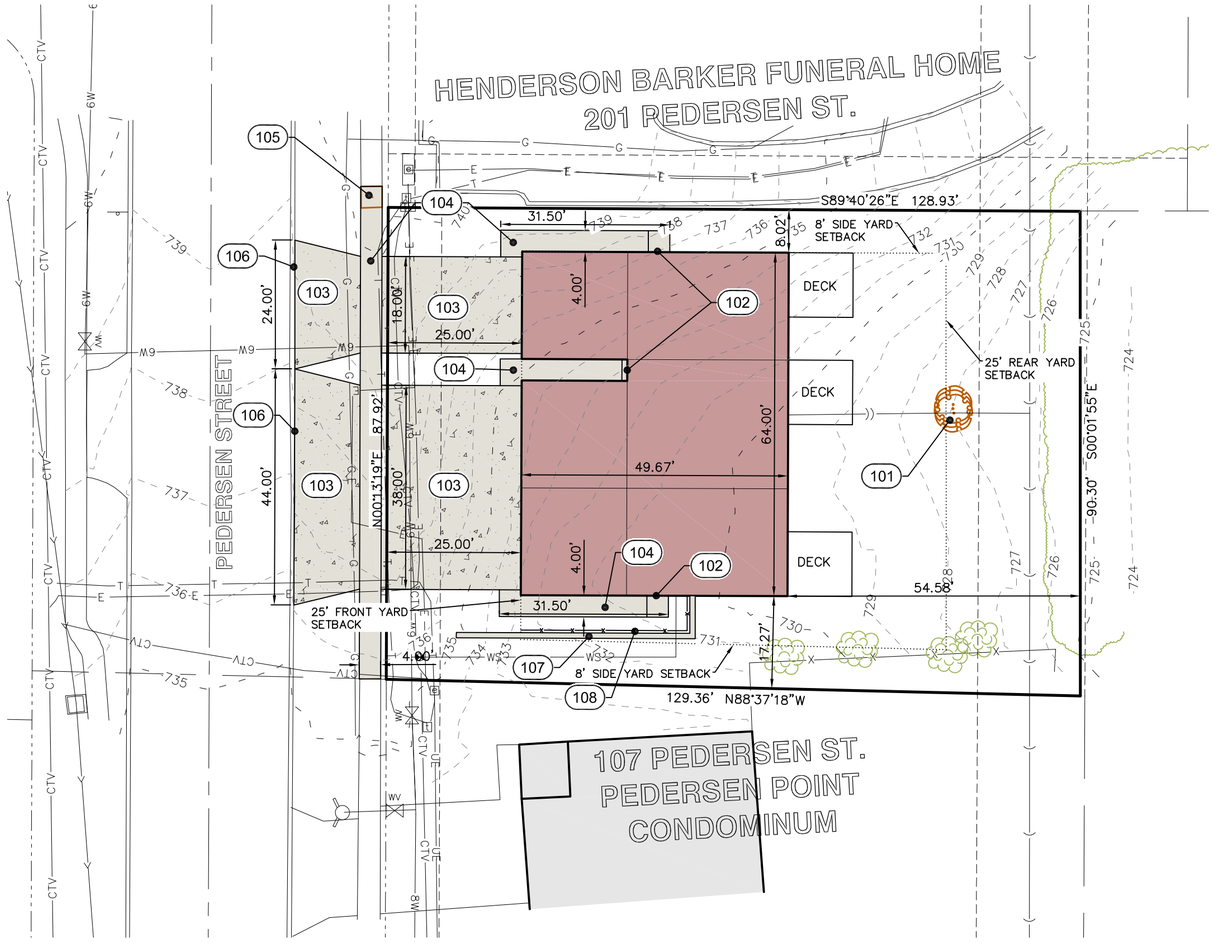
– PROPERTY &/or BOUNDARY LINES
– CONGRESSIONAL SECTION LINES
– RIGHT–OF–WAY LINES
– EXISTING RIGHT–OF–WAY LINES
– CENTER LINES
– EXISTING CENTER LINES
– LOT LINES, INTERNAL
– LOT LINES, PLATTED OR BY DEED
– PROPOSED EASEMENT LINES
– EXISTING EASEMENT LINES
– BENCHMARK
(R) – RECORDED DIMENSIONS
22–1 – CURVE SEGMENT NUMBER

–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 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



LEGAL DESCRIPTION
LOT 21, PEDERSEN VALLEY PART THREE – PHASE ONE, WEST BRANCH, IOWA, IN ACCORDANCE WITH THE RECORDED PLAT THEREOF, CONTAINING 0.26 ACRE, (11,500 SQUARE FEET), AND SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.

BENCHMARK INFORMATION

POINT	ELEVATION	DATUM	DESCRIPTION
511	740.36	NAVD88	CUT 'X' AT CENTERLINE INTERSECTION OF PEDERSON ST. AND HILLTOP DR.
10269	736.83	NAVD88	HYDRANT ±25' SOUTH OF SW PROPERTY CORNER OF LOT 21 (BOLT BY ARROW HEAD)

PEDERSEN VALLEY PART THREE - PHASE ONE, LOT 21
WEST BRANCH, IOWA

LOCATION MAP
NOT TO SCALE

0.26 ACRE

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
5/17/17	PER CITY COMMENT

SITE LAYOUT AND DIMENSION PLAN

PEDERSEN VALLEY PART THREE - PHASE ONE, LOT 21
WEST BRANCH
CEDAR COUNTY
IOWA

MMS CONSULTANTS, INC.

Date:	05-09-17
Designed by: VJS	Field Book No: 1177
Drawn by: VJS	Scale: 1"=20'
Checked by: KJB	Sheet No: 1
Project No: IOWA CITY 10214002	of: 4

SITE PLAN

PEDERSEN VALLEY PART THREE - PHASE ONE, LOT 21

WEST BRANCH, IOWA

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

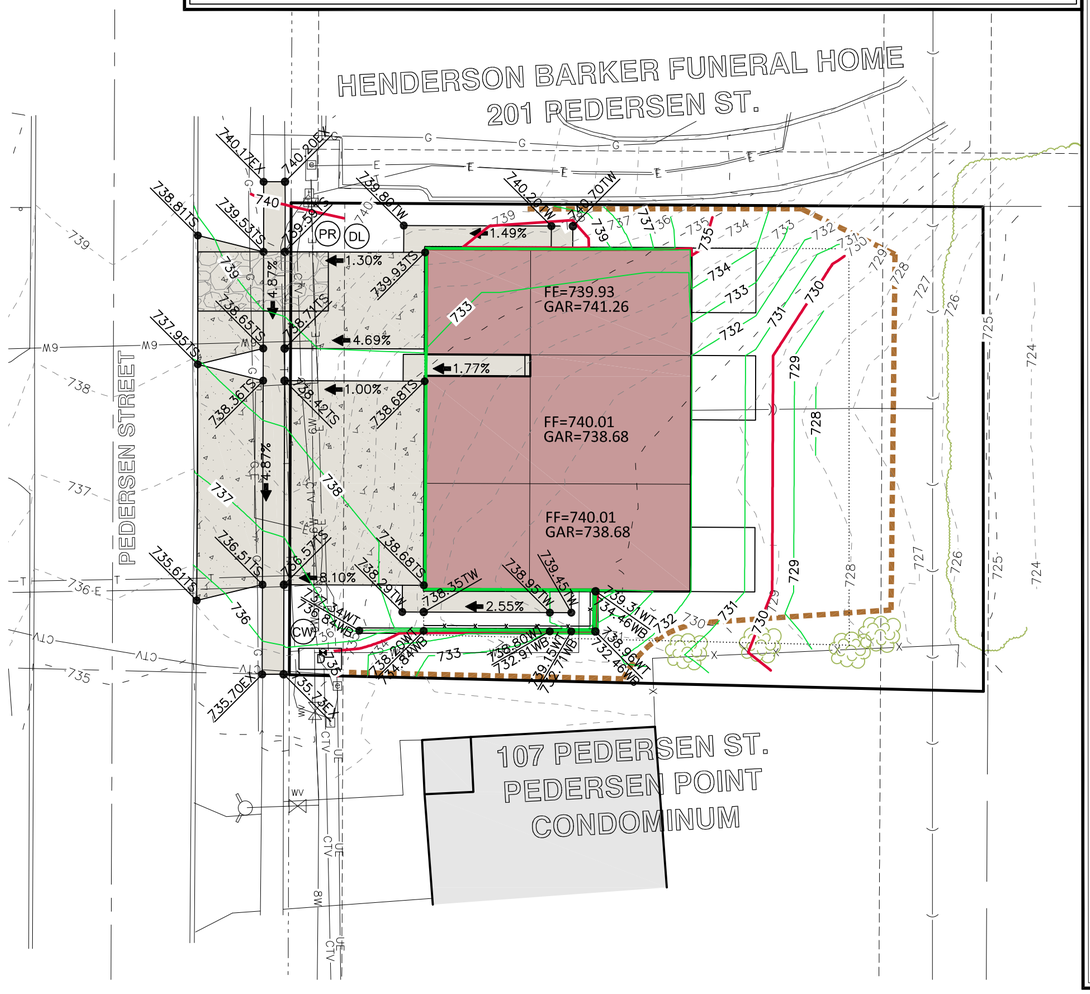
OWNER/APPLICANT:
BRIAN SHAY
1905 STONE VALLEY DRIVE
NORTH LIBERTY, IA 52317

GRAPHIC SCALE IN FEET
1"=20'

EROSION CONTROL LEGEND

- SILT FENCE/FILTER SOCK
- PERIMETER SILT FENCE
- TEMPORARY ROCK CONSTRUCTION ENTRANCE/EXIT
- TEMPORARY SOIL STOCKPILE AREA (SA)
- TEMPORARY PARKING AND STORAGE
- DIRECTION OF OVERLAND FLOW
- CONCRETE TRUCK/EQUIPMENT WASHOUT (CW)
- DUMPSTER FOR CONSTRUCTION WASTE (D)
- PORTABLE RESTROOM (PR)
- RIP RAP OUTLET PROTECTION
- DOCUMENT LOCATION (PERMITS, SWPPP, INSPECTION FORMS, ETC.) (DL)
- OTHER MEASURE: (01)
- FILTER SOCK INLET PROTECTION
- OTHER MEASURE: (02)
- FILTER SOCK BEHIND CURB AT CURB RAMP
- 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.

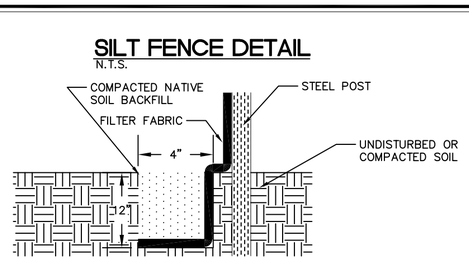


GRADING LEGEND

000.00EX	= EXISTING SURFACE
000.00TS	= TOP SLAB
000.00TW	= TOP WALK
000.00TC	= TOP CURB
000.00WT	= TOP OF WALL
000.00WB	= BOTTOM OF WALL

SILT FENCE DETAIL

N.T.S.



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 4196.01.A. SILT FENCING SHALL BE A MINIMUM OF 24" AND A MAXIMUM OF 36" HIGH WHEN COMPLETE.
3. THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE FENCE TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, THE FILTER CLOTH SHALL BE SPLICED 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.
6. 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.
7. THE TRENCH SHALL BE BACK FILLED WITH EXCAVATED MATERIAL AND THOROUGHLY COMPACTED.

MAINTENANCE

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

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
- (R) RECORDED DIMENSIONS
- 22-1 CURVE SEGMENT NUMBER

-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 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

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 90% MODIFIED 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 CITY OF WEST BRANCH DESIGN AND CONSTRUCTION STANDARDS AND PROCEDURES.

GRADING AND EROSION CONTROL NOTES

TOTAL SITE AREA: 0.26 ACRES
TOTAL AREA TO BE DISTURBED: 0.20 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 PERIMETER SILT FENCE AND TEMPORARY CONSTRUCTION ENTRANCE THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR TO SCHEDULE A SITE INSPECTION PRIOR TO ANY SOIL DISTURBING ACTIVITIES.

THE CONTRACTOR SHALL FOLLOW THE NPDES PERMIT, SWPPP, AND THE CITY CSR REGULATIONS.

THE EROSION CONTROL CONTRACTOR SHALL INSTALL FILTER SOCKS OR OTHER APPROVED FORM OF INLET PROTECTION AT EACH STREET INTAKE ADJACENT TO THE SITE.

SEEDING SHALL BE SUDAS TYPE 1 (PERMANENT LAWN MIXTURE) IN ACCORDANCE WITH SUDAS SECTION 9010-2.02 SEED MIXTURE AND SEEDING DATES. REFER TO SUDAS TABLE 9010.06 FOR SEED MIXTURE. ALTERNATIVELY, SOD CAN BE PLACED TO ESTABLISH PERMANENT LAWN.

0.26 ACRE

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www.mmsconsultants.net

Date	Revision
5/17/17	PER CITY COMMENT

SITE GRADING AND EROSION CONTROL PLAN

PEDERSEN VALLEY PART THREE - PHASE ONE, LOT 21
WEST BRANCH
CEDAR COUNTY
IOWA

MMS CONSULTANTS, INC.

Date:	05-09-17
Designed by: VJS	Field Book No: 1177
Drawn by: VJS	Scale: 1"=20'
Checked by: KJB	Sheet No: 2
Project No: IOWA CITY 10214002	of: 4

SITE PLAN

PEDERSEN VALLEY PART THREE - PHASE ONE, LOT 21

WEST BRANCH, IOWA

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

OWNER/APPLICANT:
BRIAN SHAY
1905 STONE VALLEY DRIVE
NORTH LIBERTY, IA 52317

0 2 5 10 15 20
GRAPHIC SCALE IN FEET
1"=20'

PLANT LIST – TREES

QTY	KEY	BOTANICAL NAME	COMMON NAME	INSTALL SIZE	COMMENT	MATURE SIZE
3	AM	ACER GINNALA	AMUR MAPLE	1 1/2" CAL.	B & B	15' X 12'
2	CF	CORNUS FLORIDA	FLOWERING DOGWOOD	15" CAL.	B & B	30' X 20'

PLANT LIST – SHRUBS, PERENNIALS, ORNAMENTAL GRASSES & GROUNDCOVER

QTY	KEY	BOTANICAL NAME	COMMON NAME	INSTALL SIZE	COMMENT	MATURE SIZE
3	PD	PINUS MUGHO MUGHUS	DWARF MUGHO PINE	15"HT.	CONT.	4' X 4'
4	SN	SORGHASTRUM NUTANS	INDIAN GRASS	12" HT.	CONT.	5' X 3'

UTILITY COMPANY CONTACTS

SERVICE	SUPPLIER	PHONE NO.
ENERGY	ALLIANT ENERGY ATTN: JOSH MILLER	319-455-1902
COMMUNICATIONS	LIBERTY COMMUNICATIONS ATTN: MARK COLVIN	319-627-0227
TELEPHONE & CABLE TV	MEDIACOM ATTN: DARWIN DRISCOLL	845-204-5742
WEST BRANCH, CITY OF	CITY OF WEST BRANCH ATTN: MATT GOODALE	319-643-5888

STANDARD LEGEND AND NOTES

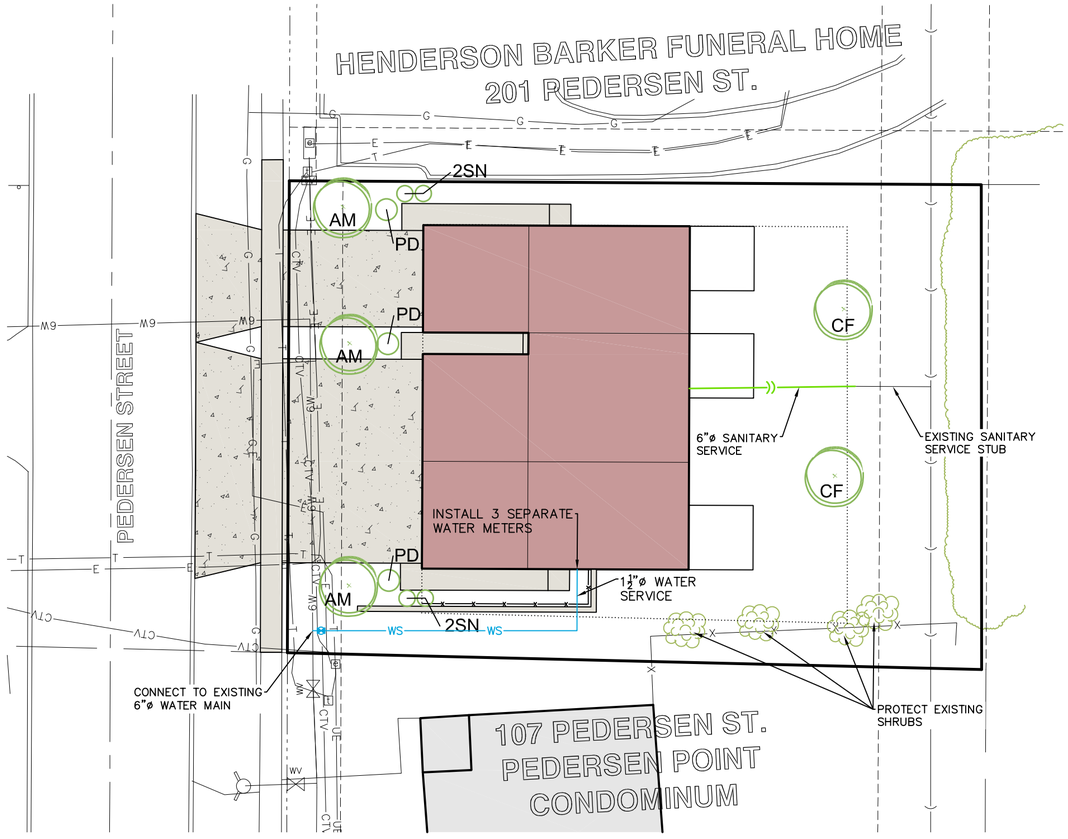
- PROPERTY &/or BOUNDARY LINES
- CONGRESSIONAL SECTION LINES
- RIGHT-OF-WAY LINES
- EXISTING RIGHT-OF-WAY LINES
- CENTER LINES
- EXISTING CENTER LINES
- LOT LINES, INTERNAL
- LOT LINES, PLATTED OR BY DEED
- PROPOSED EASEMENT LINES
- EXISTING EASEMENT LINES
- BENCHMARK
- (R) – RECORDED DIMENSIONS
- 22-1 – CURVE SEGMENT NUMBER

–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 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



LANDSCAPE NOTES:

1 – THE LANDSCAPE CONTRACTOR SHALL VERIFY ALL LOCATIONS OF UNDERGROUND UTILITIES ON SITE PRIOR TO LANDSCAPE INSTALLATION.

2 – PLANT QUANTITIES ARE FOR INFORMATION ONLY; DRAWING SHALL PREVAIL IF CONFLICT OCCURS.

3 – KIND, SIZE AND QUALITY OF PLANT MATERIAL SHALL CONFORM TO AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60 – 1990, OR MOST RECENT ADDITION.

4 – LAYOUT OF PLANT MATERIAL AT SITE SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

5 – ALL PLANTING BED AREAS SHALL HAVE QUALITY TOPSOIL ADDED (IF NEEDED) BY LANDSCAPE CONTRACTOR TO BRING BED GRADES 3" – 4" BELOW EXISTING CONCRETE AREAS AND TOP OF DECORATIVE WALLS. (PRIOR TO BIDDING, CONTRACTOR IS RECOMMENDED TO VISIT SITE)

6 – FINISH GRADING OF PLANT BED AND SOD AREAS SHALL BE PERFORMED BY LANDSCAPE CONTRACTOR.

7 – ALL SHRUB AND PERENNIAL PLANTING AREAS SHALL HAVE A MINIMUM 3 INCH DEEP BED OF DOUBLE SHREDDED HARDWOOD BARK MULCH AND AN APPLICATION OF A PRE-EMERGENT ("PREEN" OR APPROVED EQUAL) FOR WEED CONTROL.

8 – LANDSCAPE EDGING BETWEEN BARK MULCH AND LAWN AREAS SHALL BE A SPADE CUT EDGE. EDGE SHALL BE INSTALLED VERTICAL AND ACCORDING TO DETAILS

9 – STAKING SHALL BE REQUIRED ON ALL TREES (EXCEPT MULTI-STEM VARIETIES) STAKE USING (2) OR (3) 6' STEEL "T" POST PLACED OUTSIDE OF ROOTBALL AND ADHERED TO TRUNK OF TREE WITH 16 GAUGE CABLE AND WOVEN NYLON TREE STRAPS.

10 – ALL TREES FREE-STANDING IN LAWN AREAS AND IN PLANTING BEDS SHALL BE WRAPPED WITH A STANDARD MANUFACTURED TREE WRAP AND FASTENED WITH TWINE OR APPROVED METHOD.

11 – ALL TREES FREE-STANDING WITHIN LAWN AREAS SHALL HAVE A MINIMUM 4 FT. DIA. RING OF DOUBLE SHREDDED HARDWOOD BARK MULCH AT A 3 INCH DEPTH.

12 – ALL LANDSCAPE PLANTINGS AND SOD AREAS SHALL BE THOROUGHLY WATERED UPON INSTALLATION AND A TOTAL OF (3) WATERINGS BEFORE INITIAL ACCEPTANCE. AFTER ACCEPTANCE, SOD SHALL BE MAINTAINED FOR (30) DAYS OR UNTIL ROOTED IN.

13 – LANDSCAPE CONTRACTOR MUST FOLLOW ALL DETAILS PROVIDED ON SHEETS DESCRIBING LANDSCAPE CONSTRUCTION TECHNIQUES.

14 – ALL LANDSCAPE PLANTINGS SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF INITIAL ACCEPTANCE.

15 – SEED ALL REMAINING AREAS WITH IDOT URBAN MIX.

0.26 ACRE

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SITE UTILITY AND LANDSCAPE PLAN

PEDERSEN VALLEY PART THREE - PHASE ONE, LOT 21
WEST BRANCH
CEDAR COUNTY
IOWA

MMS CONSULTANTS, INC.

Date:	05-09-17
Designed by: VJS	Field Book No: 1177
Drawn by: VJS	Scale: 1"=20'
Checked by: KJB	Sheet No: 3
Project No: IOWA CITY 10214002	of: 4

PAVING CONSTRUCTION NOTES

1) I.D.O.T. CLASS C–3 CONCRETE SHALL BE USED, UNLESS NOTED OTHERWISE.

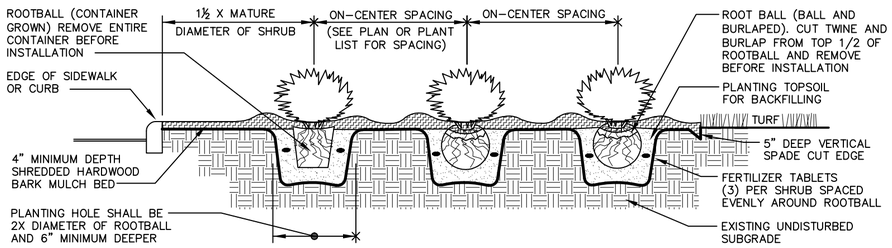
2) PAVING CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS) MANUAL, CURRENT EDITION AND CITY OF WEST BRANCH DESIGN AND CONSTRUCTION STANDARDS AND PROCEDURES. CITY OF WEST BRANCH DESIGN AND CONSTRUCTION STANDARDS AND PROCEDURES SHALL PREVAIL.

3) PAVEMENT JOINTS SHALL CONFORM TO SUDAS SPECIFICATION SECTION 7010,3.02, J AND K.

4) THE CONCRETE AGGREGATE SHALL BE CLASS 3i DURABILITY AS SPECIFIED IN SECTION 4115.04.B3 OF THE I.D.O.T. STANDARD SPECIFICATIONS.

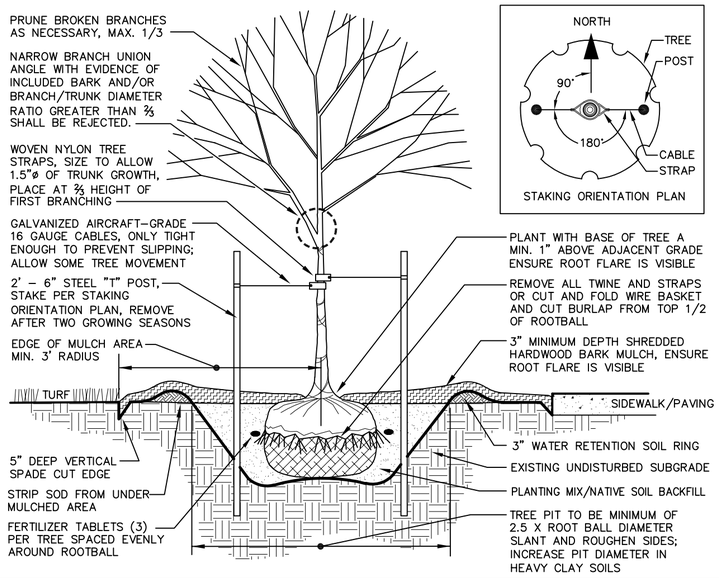
SHRUB PLANTING DETAIL (DECIDUOUS AND EVERGREEN)

N.T.S.



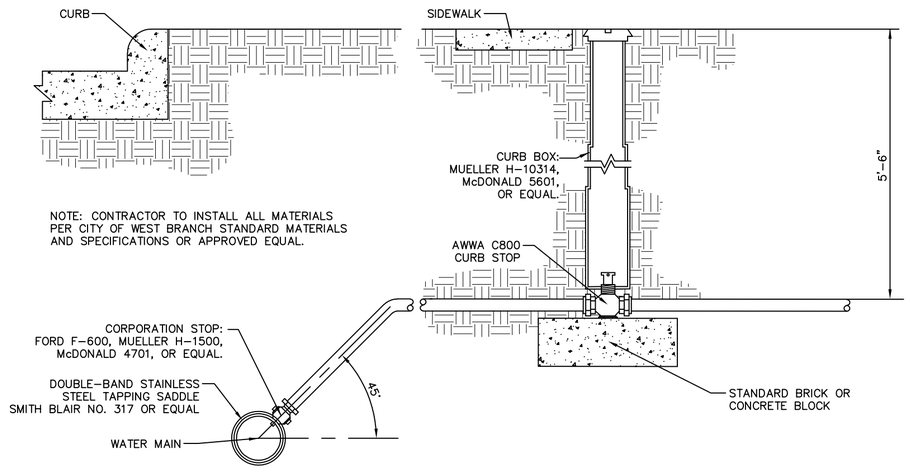
TYPICAL TREE PLANTING DETAIL

N.T.S.



WATER SERVICE DETAIL

N.T.S.



0.26 ACRE

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GENERAL NOTES AND DETAILS

PEDERSEN VALLEY PART THREE - PHASE ONE, LOT 21
WEST BRANCH
CEDAR COUNTY
IOWA

MMS CONSULTANTS, INC.

Date: 05-09-17	
Designed by: VJS	Field Book No: 1177
Drawn by: VJS	Scale: NTS
Checked by: KJB	Sheet No: 4
Project No: IOWA CITY 10214002	of: 4

VEENSTRA & KIMM, INC.
860 22nd Avenue - Suite 4 • Coralville, Iowa 52241-1565
319-466-1000 • 319-466-1008(FAX) • 888-241-8001(WATS)

May 15, 2017

Nick Shimmin
Interim City Administrator
City of West Branch
110 North Poplar St.
West Branch, IA 52358

WEST BRANCH, IOWA
PEDERSEN VALLEY PART 3 - PHASE ONE, LOT 21
SITE PLAN

We have reviewed the site plan for Pedersen Valley Part 3 – Phase One, Lot 21 for conformance with the City's ordinances and design standards. Based on our review, we offer the following comments:

1. Note 107 on Sheet 1 should refer to detail on Sheet 4. This wall is shown to be in excess of 4 feet in height, and will require a fence to be installed on top. In addition, the wall is subject to review and will require that design information be submitted. (165.44)

2. Utility company contacts listed on Sheet 3 should be updated to provide current information.

3. Separate water meters are to be provided for each unit. The common service line to the building is acceptable.

4. RB-1 zoning district has a maximum building height of 35 ft.

5. Submit exterior elevation views for proposed buildings.

Should you have any questions or comments, please contact us at 319-466-1000.

VEENSTRA & KIMM, INC.

Dave Schechinger

cc: Kelly Beckler, MMS Consultants

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Experts in Planning and Development Since 1975

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Iowa City, Iowa 52240
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mmsconsultants.net
mms@mmsconsultants.net

May 18, 2017

Nick Shimmin
Interim City Administrator
City of West Branch
110 North Poplar St.
West Branch, IA 52358

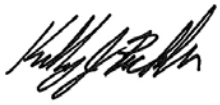
Re: Lot 21, Pedersen Valley Part 3 – Phase One

Dear Mr. Shimmin:
We are in receipt of the Veenstra & Kimm, Inc. letter dated May 15, 2017. We offer the following in response to city staff comments and concerns.

1. Note 107 on Sheet 1 should refer to detail on Sheet 4. This wall is shown to be in excess of 4 feet in height, and will require a fence to be installed on top. In addition, the wall is subject to review and will require that design information be submitted. (165.44)
   A fence has been added by the retaining wall. The owner will submit design information for the retaining wall prior to construction. Plans have been updated accordingly.
2. Utility company contacts listed on Sheet 3 should be updated to provide current information.
   Utility contacts have been updated.
3. Separate water meters are to be provided for each unit. The common service line to the building is acceptable.
   Water service has been adjusted with note to add separate meters.
4. RB-1 zoning district has a maximum building height of 35 ft.
   The owner will submit exterior elevation information to the city.
5. Submit exterior elevation view for proposed buildings.
   The owner will submit exterior elevation information to the city.

We trust that the above information, along with the enclosed copies of the revised plans, is sufficient for forwarding for approval. If you have questions or require any additional information, please contact us accordingly.

Respectfully submitted,



Kelly Beckler, P.E.
MMS Consultants, Inc.

10214002Q1

City of West Branch
110 N. Poplar Street
West Branch, IA 52358

December 6, 2016

SITE PLAN REVIEW CHECKLIST

Project Name: Lot 21 Pedersen Valley, Pt. 3, Phase 1

Engineer: MMS

Reviewer: DRS

Reviewed Date: 5-12-17

1. SITE PLAN [X]

   A. Site plans shall only be required whenever any person proposes to place any structure for which a building permit is required under any other section of this Code, on any tract or parcel of and within any district of the West Branch Zoning Ordinance, and for any use, except one and two family dwellings.

2. DESIGN STANDARDS [X]

   A. The design of the proposed improvements shall make adequate provisions for surface and subsurface drainage, for connections to water and sanitary sewer lines, each so designed as to neither overload existing public utility lines nor increase the danger of erosion, flooding, landslide, or other endangerment of adjoining or surrounding property

   B. The proposed improvements shall be designed and located within the property in such manner as not to unduly diminish or impair the use and enjoyment of adjoining property and to this end shall minimize the adverse effects on such adjoining property from automobile headlights, illumination of required perimeter yards, refuse containers, and impairment of light and air.

   C. The proposed development shall have such entrances and exits upon adjacent streets and such internal traffic circulation pattern as will not unduly increase congestion on adjacent or surrounding public streets

   D. The proposed development shall conform to all applicable provisions of the Code of Iowa, as amended, Iowa Statewide Urban Design and Specifications (SUDAS), Iowa Stormwater Management Manual and all applicable provisions of the Code of Ordinances of the City of West Branch, as amended

Veenstra & Kimm, Inc.
860 22nd Avenue, Suite 4
Coralville, Iowa 52241
319-466-1000

City of West Branch
110 N. Poplar Street
West Branch, IA 52358

December 6, 2016

SITE PLAN:

1. Prepared by a licensed Engineer or Land Surveyor — [X] YES [ ] NO
2. Date of preparation, North point and scale no smaller than 1"=100'. — [X] YES [ ] NO
   Comments:
3. Legal description and address of the property to be developed. — [X] YES [ ] NO
   Comments:
4. Name and address of the record property owner, the applicant, and the person or firm preparing the site plan
   Comments: — [X] YES [ ] NO
5. The existing topography with a maximum of two (2) foot contour intervals. Where existing ground is on a slope of less than two percent (2%), either one (1) foot contours or spot elevations where necessary but not more than fifty (50) feet apart in both directions, shall be indicated on site plan.
   Comments: — [X] YES [ ] NO
6. Existing and proposed utility lines and easements in accordance with Iowa Statewide Urban Design and Specifications (SUDAS) and City of West Branch Subdivision Regulations.
   Comments: — [X] YES [ ] NO
7. Structure Information:
   a. Total number and type of dwelling units proposed — [X] YES [ ] NO
   b. Proposed uses for all buildings — [X] YES [ ] NO
   c. Total floor area of each building — [X] YES [ ] NO
   d. Estimated number of employees for each proposed use where applicable — [ ] YES [ ] NO N/A
   e. Any other information, including peak demand, which may be necessary to determine the number of off-street parking spaces and loading spaces. — [ ] YES [ ] NO N/A
8. Location, shape, and all exterior elevation views of all proposed buildings, for the purpose of understanding the structures and building materials to be used, the location of windows, doors, overhangs, projection height, etc. and the grade relationship to floor elevation, and the number of stories of each existing building to be retained and of each proposed building. Submit — [ ] YES [ ] NO
9. Property lines and all required yard setbacks. — [X] YES [ ] NO
10. Location, grade and dimensions of all existing and proposed paved surfaces and all abutting streets. — [X] YES [ ] NO

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December 6, 2016

11. Complete traffic circulation and parking plan, showing the location and dimensions of all existing and proposed parking stalls, loading areas, entrance and exit drives, sidewalks, dividers, planters, and other similar permanent improvements. ☐ YES ☐ NO N/A

12. Location and type of existing or proposed signs and of any existing or proposed lighting on the property which illuminates any part of any required yard. ☐ YES ☐ NO N/A

13. Location of existing trees six (6) inches or larger in diameter, landslide areas, springs and streams and other bodies of water, and any area subject to flooding by a one hundred (100) year storm on site and downstream off site. ☒ YES ☐ NO

14. Location, amount and type of any proposed landscaping. Location of proposed plantings, fences, walls, or other screening as required by the zoning regulations and the design standards set forth in Section 173.03. ☒ YES ☐ NO

15. A vicinity map at a scale of 1" = 500' or larger, showing the general location of the property, and the adjoining land uses and zoning. ☒ YES ☐ NO

16. Soil tests and similar information, if deemed necessary by the City Engineer, to determine the feasibility of the proposed development in relation to the design standards set forth in Section 173.03. ☐ YES ☐ NO N/A

17. Where possible ownership or boundary problems exist, as determined by the Zoning Administrator, a property survey by a licensed land surveyor may be required. ☐ YES ☐ NO N/A

18. Stormwater Pollution Prevention Plan. ☒ YES ☐ NO

19. Stormwater Management Plan. ☐ YES ☒ NO

20. Pre-Application Conference. ☒ YES ☐ NO

21. Provide 25% of open space

    a. Said open space shall be unencumbered with any structure, or off-street parking or roadways and drives, and shall be landscaped and maintained with grass, trees and shrubbery. ☒ YES ☐ NO

    b. Each principal structure of an apartment or office complex on same site shall be separated from any other principal structure in the complex by an open space of not less than sixteen (16) feet. ☐ YES ☐ NO N/A

22. Landscaping Requirements

    a. Minimum requirements at the time of planting - Two (2) trees minimum or one (1) 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 (3) feet in height.) ☒ YES ☐ NO

    b. Minimum requirements at the time of planting - 6 shrubs, or 1 shrub per 1,000 square feet of open space, whichever is greater. ☒ YES ☐ NO

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December 6, 2016

23. Buffer Required

a. Any other zoning district, other than an Agricultural A-1 District, that abuts any residential district shall require a buffer as described in this section. The buffer shall be provided by the non-residential use when adjoining a residential district. ☐ YES ☐ NO N/A

b. All Industrial Districts that abut any other district shall provide a buffer as required by this section. ☐ YES ☐ NO N/A

c. Any storage area, garbage storage, junk storage or loading docks, and loading areas, in any District shall be screened from public street view by a buffer ☐ YES ☐ NO N/A

24. Buffers

a. Buffer Wall: A buffer wall shall not be less than six (6) feet in height; constructed of a permanent low maintenance material such as concrete block, cinder block, brick, concrete, precast concrete or tile block; the permanent low-maintenance wall shall be designed by an architect or engineer for both structural adequacy and aesthetic quality. ☐ YES ☐ NO N/A

b. Landscape Buffer: A landscape buffer shall not be less than twenty-five (25) feet in width, designed and landscaped with earth berm and predominant plantings of evergreen type trees, shrubs and plants so as to assure year around effectiveness. ☐ YES ☐ NO N/A

25. Surfacing Requirements.

a. All off-street parking and loading areas and access roadways shall have a durable and dustless surface paved with asphaltic or Portland cement concrete pavement or pervious pavement. Off-street parking of automobiles, vans, campers, trucks, trailers, tractors, recreational vehicles, boats, construction equipment, and any other mobile vehicles shall be on an asphaltic or Portland cement concrete paved off-street parking area and not parked or stored within the landscaped open space area of the front yard. All off-street parking areas and associated driveways, access roadways and frontage roads, except driveways for single family residences, shall be constructed with permanent, integrally attached 6" high curbing or curbing of alternate height. ☒ YES ☐ NO

b. Portland Cement Concrete shall have a minimum thickness of five (5) inches. ☒ YES ☐ NO

c. Asphaltic Cement Concrete shall have a minimum thickness of six (6) inches. ☐ YES ☐ NO N/A

d. Material utilized in the subgrade shall be well drained and not susceptible to frost boils. Driveways for attached townhouse style residences shall be Portland cement concrete or asphaltic concrete with minimum thickness of five (5) inches and six (6) inches, with well-drained subgrade base and not greater than eighteen (18) feet in width. ☒ YES ☐ NO

City of West Branch
IOWA

City of West Branch
110 N. Poplar Street
West Branch, IA 52358

December 6, 2016

26. Landscaping, Screening and Open Space Requirements.

    a. All parking areas be aesthetically improved to reduce obtrusive characteristics that are inherent to their use. ☐ YES ☐ NO N/A

    b. Parking areas shall be effectively screened from general public view and contain shade trees within parking islands where multiple aisles of parking exist. Not less than five (5) percent of the interior parking area shall be landscaped within parking islands. ☐ YES ☐ NO N/A

27. Off-Street Parking Access to Public Streets and Internal Traffic Circulation.

    a. forward movement of the vehicle. ☐ YES ☐ NO N/A

    b. Driveway approach returns shall not extend beyond the side lot line as extended. ☒ YES ☐ NO

    c. The number of ingress/egress access points to public streets from offstreet parking areas located to limit vehicular conflicts, preserve proper traffic safety. ☒ YES ☐ NO

28. Handicap Accessible Parking Requirements - comply with the parking space minimum requirements. ☐ YES ☐ NO N/A

29. Traffic Analysis Requirements. Any project which contains 100 dwelling units or 1,000 average day trips. ☐ YES ☐ NO N/A

30. Architectural Standards - architectural plans for buildings shall be submitted for review and approval. Submit ☐ YES ☐ NO

Veenstra & Kimm, Inc.
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Coralville, Iowa 52241
319-466-1000

SHEET NUMBER:
A.01

CUBBY PARK IMPROVEMENTS - PHASE 2

FOR

CITY OF WEST BRANCH

WEST BRANCH, IOWA

16-072

Sheet List Table

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L.11	PLAY GROUND ENLARGEMENT
L.12	STREAM BANK RESTORATION
L.13	PLANT LIST AND DETAILS
L.14	DETAILS
L.15	DETAILS
L.16	DETAILS
L.17	DETAILS
L.18	DETAILS

OWNER/DEV	CITY OF WEST BRANCH
ADDRESS	110 N Poplar Street
	PO BOX 218
	West Branch, Iowa 52358
P#	319.643.5888
F#	319.643.2305

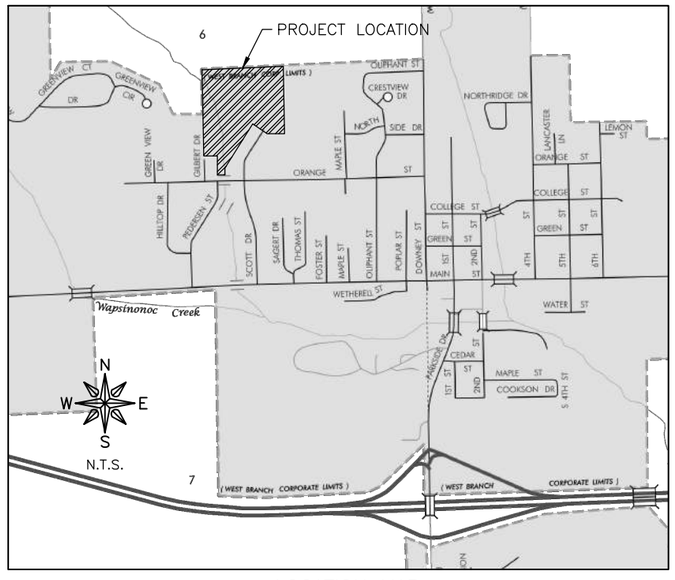
CITY ADMINISTRATION

Mayor.....	Roger Laughlin
Council Members.....	Jordan M. Ellyson
	Colton Miller
	Mary Beth Stevenson
	Tim Shields
	Brian Pierce
Interim City Administrator.....	Nick Shimmin
Deputy City Clerk.....	Gordon Edgar

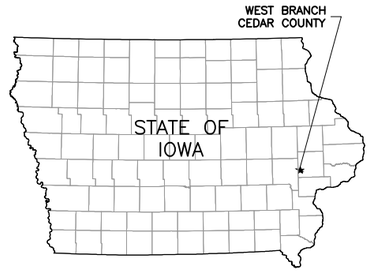
UTILITY INFO. – CITY OF WEST BRANCH, IA

UTILITY TYPE	COMMON NAME	
ELECTRIC	ALLIANT ENERGY	
TELEPHONE	MEDIACOM	
GAS	ALLIANT ENERGY	
CABLE	MEDIACOM	
PIPELINE	ENTERPRISE PRODUCTS	BRIAN MUELLER
	KINDER MORGAN	DAVID LENSING

(CONTRACTOR TO BE RESPONSIBLE FOR ANY ADJUSTMENTS TO BE MADE.)



LOCATION MAP



This project is covered by Iowa DNR NPDES General Permit No. 2. The contractor shall carry out the terms and conditions of General Permit No. 2. and the Storm Water Pollution Prevention Plan which is a part of these contract documents.

The 2017 Version of the Urban Standard Specifications for Public Improvements, also known as SUDAS (2017), plus Fehr Graham Supplemental Specifications and Special Provisions shall apply to construction work on this project.

IOWA ONE CALL
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www.iowaonecall.com
811 Know what's below. Call before you dig.

PRELIMINARY

CITY OF WEST BRANCH, IOWA

THIS ENGINEERING DOCUMENT HAS BEEN REVIEWED BY THE JURISDICTION AND IS RECOMMENDED FOR FILING WITH THE CITY CLERK

CITY ADMINISTRATOR DATE

PROF. ENGINEER & LAND SURVEYOR
NATHAN P. KASS 18659
IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Nathan P. Kass, P.E. & P.L.S. Date
License Number 18659
My license renewal date is December 31, 2017.
Pages or sheets covered by this seal: All

ORIGINAL SET FOR PROJECT: 16-072	DATE CREATED: DATE

REVISIONS

REV. NO.	DESCRIPTION	DATE

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS IOWA WISCONSIN
CEDAR RAPIDS, IOWA
375 COLLINS ROAD NE, SUITE 105
CEDAR RAPIDS, IA 52402
P# (319) 294-6909
F# (319) 294-5133

G:\C30\16\16-072\Plans\16-072 Plans PH2.dwg, A.01
PLOT DATE: 5/15/17

ABBREVIATIONS

<	ANGLE
ABC	AGGREGATE BASE COURSE
AC	ACRE(S)
ACI	AMERICAN CONCRETE INSTITUTE
AGR	AGGREGATE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE
ARCH	ARCHITECT
ASPH	ASPHALT
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
B	BALL VALVE
BFP	BACKFLOW PREVENTER
BIT	BITUMINOUS
BLDG	BUILDING
BLK	BLOCKING
BM	BENCHMARK
BOT	BOTTOM
BSMT	BASEMENT
BV	BUTTERFLY VALVE
B–B	BACK–TO–BACK OF CURB DIMENSION
CL or ℄	CENTERLINE
C TO C	CENTER TO CENTER
C & G	CURB AND GUTTER
CF	CUBIC FEET
CHD	CHORD LENGTH
CI	CAST IRON PIPE
CHK	CHECK VALVE
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CTY	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS
C–B	CENTERLINE TO BACK OF CURB DIMENSION
COORD	COORDINATE
CU	COPPER PIPING
CTRS	CENTERS
CY	CUBIC YARDS
CS	CORPORATION STOP
D	DEGREE OF CURVE
DEP	DEPRESSED
DET	DETAIL
DIAG	DIAGONAL
DIM	DIMENSION
DI	DUCTILE IRON PIPE
DN	DOWN
DNSTR	DOWNSTREAM
DP	DRAINAGE PIPE/STORM PIPE
DWG	DRAWING
E	EAST
EJ	EXPANSION JOINT
EL, ELEV	ELEVATION
EP	EDGE OF PAVEMENT
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
EW	EACH WAY
EXP	EXPANSION
EX, EXIST	EXISTING
EXT	EXTERIOR
E =	EXTERNAL DISTANCE
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIELD ENTRANCE
FF	FINISH FLOOR
FIL	FILLET
FIN	FINISH
FL	FLOW LINE
FLR	FLOOR
FM	FORCE MAIN
FND	FOUND
FRMG	FRAMING
FTG	FOOTING
F–F	FACE TO FACE
GA	GAUGE
GI	GALVANIZED IRON PIPE
GRD	GRADE
GRS	GRATING SUPPORT
GRT	GROUT
GV	GAS VALVE
GYP	GYPSUM
HSE	HOUSE
HC	HORIZONTAL CURVE
HMA	HOT MIX ASPHALT
HNGR	HANGER
HORIZ	HORIZONTAL
H.P.	HIGH POINT
HW	HOT WATER
HWH	HOT WATER HEATER
△ =	CENTRAL ANGLE
I	MOMENT OF INERTIA
ID	INSIDE DIAMETER
INT	INTERIOR
INV	INVERT ELEVATION; BASED ON BENCH MARK DATUM
IP	IRON PIPE
JST	JOIST
L	LENGTH OF CURVE
LAT	LATERAL
LAV	LAVATORY
LF	LINEAL FEET
L.P.	LOW POINT
LT	LEFT OF SURVEY BASE LINE
MAX	MAXIMUM
ME	MATCH EXISTING
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
MTL	METAL
N	NORTH
No. OR #	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OO	OUTSIDE TO OUTSIDE
OPNG	OPENING
OPP	OPPOSITE
PC	POINT OF CURVATURE
PCC	PORTLAND CEMENT CONCRETE
PCF	POUNDS PER CUBIC FOOT
PDP	PERFORATED DRAIN PIPE
PE	POLYETHYLENE PIPE
PI	POINT OF INTERSECTION
PL	PLATE
PLG	PLUG VALVE
PLP	POLYPROPYLENE PIPE
PLYWD	PLYWOOD
PM	PRINCIPAL MERIDIAN
PR	PRESSURE REGULATORS
PRC	POINT OF REVERSE CURVATURE
PRESS	PRESSURE
PR, PROP	PROPOSED
PRV	PRESSURE REDUCING VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PIPE SLEEVE
PT	POINT OF TANGENCY
PLG	PLUG VALVE
PVC	POLYVINYL CHLORIDE (PLASTIC) PIPE
R	RADIUS
RDCR	REDUCER
RCCP	REINFORCED CONCRETE CYLINDER PIPE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
REINF	REINFORCING
REQD	REQUIRED
ROW	RIGHT OF WAY
RFTR	RAFTER
RND	ROUND
RR	RAILROAD
RRSP	RAILROAD SPIKE
RT	RIGHT
R&R	REMOVE AND REPLACE
S	SOUTH
SB	STREAM BED
SCHED	SCHEDULE
SEC	SECTION
SF	SQUARE FEET
SHR	SHOWER
SHT	SHEET
SHTG	SHEATHING
SP	SANITARY PIPE
SPA	SPACING OR SPACES
SPEC	SPECIFICATION
SQ	SQUARE
SS	SANITARY SERVICE
STA	STATION
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SW	SIDEWALK
SY	SQUARE YARDS
SYM	SYMMETRICAL
TAN	TANGENT LENGTH
TBC	TOP BACK OF CURB
TBM	TEMPORARY BENCH MARK; BASED ON BENCHMARK DATUM
TD	TILE DRAIN
THK	THICK
TR	TREAD
TY	TYPE
TYP	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
UP	UTILITY POLE
UPSTR	UPSTREAM
UR	URINAL
USGS	US GEOLOGICAL SURVEY
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VOL	VOLUME
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPRC	VERTICAL POINT OF REVERSE CURVATURE
VPT	VERTICAL POINT OF TANGENCY
W	WEST
WC	WATER CLOSET
WF	WIDE FLANGE
WM	WATER MAIN
WMQ	WATER MAIN QUALITY
WV	WATER VALVE
WGT	WEIGHT
WP	WEATHER PROOF
WS	WATER SERVICE
WWF	WELDED WIRE FABRIC
W/	WITH
W/O	WITHOUT
XP	EXPLOSION PROOF

HATCH PATTERNS

- EARTH – FILL
- EARTH – UNDISTURBED
- ROCK (GEOLOGICAL)
- STONE OR RIP RAP
- GRAVEL
- CONCRETE
- CONCRETE BLOCK
- CMU
- ASPHALT PAVEMENT
- BRICK
- STEEL
- INSULATION (LOOSE/ BATT)
- INSULATION (RIGID)
- WOOD (ROUGH)
- WOOD (BLOCKING)
- WOOD (FINISH)
- DETECTABLE WARNING

SYMBOLS

CIVIL

EXISTING		PROPOSED
EXISTING R.O.W.	RIGHT–OF–WAY LINE	PROPOSED R.O.W.
	PROPERTY LINE	
	CENTERLINE	
	SETBACK LINE	
	EASEMENT LINE	
	SECTION LINE	
	SECTION CORNER	
N 1000.00 E 1000.00	COORDINATE POINT ON GRID SYSTEM	
FND	FOUND OR SET PROPERTY PIN	SET
	RIGHT–OF–WAY MARKER	
	BENCHMARK	
600	CONTOUR LINE	600
000.00 FG	SPOT ELEVATION (AT ●)	000.00 FG
X X	FENCE LINE	X X
	SILT FENCE LINE	
	CURB AND GUTTER	
	TIP OUT CURB AND GUTTER	
	SAWCUT, LIMITS OF PAVEMENT REMOVAL & REPLACEMENT	
X"	DECIDUOUS TREE W/ SIZE	X"
X"	CONIFEROUS TREE W/ SIZE	X"
X"	TREE STUMP	
	HEDGEROW	
	BUSH OR SHRUB	
	TREE LINE	
CL	CONSTRUCTION LIMIT LINE	CL
	SIGN (MULTIPLE POST, SINGLE POST)	
	SIGN (PYLON)	
	GUARD RAIL	
	RAILROAD TRACKS	
	BUILDING	
	MAILBOX	
	FLAGPOLE	
	BOLLARD	
AC	AIR CONDITIONER	AC

MISC

EXISTING		PROPOSED
S.B. #XX	SOIL BORING LOCATION AND NUMBER	S.B. #XX
MW #XX	MONITORING WELL	MW #XX
	REVISION NUMBER	
	OUTLINE OF DETAILED AREA	
	SECTION NUMBER / SHEET WHERE SHOWN	

SANITARY SEWER

EXISTING		PROPOSED
SAN	SANITARY SEWER	SAN
SSV SSV	SANITARY SEWER SERVICE	SSV SSV
FM	SANITARY SEWER FORCE MAIN	FM
	SANITARY CLEANOUT	CO
S	SANITARY MANHOLE	
	WYE FITTING	

WATER

EXISTING		PROPOSED
WSV WSV	WATER SERVICE	WSV WSV
W W	WATER PIPE	W W
	FIRE HYDRANT	
	YARD HYDRANT	
	WATER VALVE WITH BOX	
	CURB STOP W/CURB BOX	
	REDUCER	
W	WATER VALVE VAULT	W
	11.25° BEND	
	22.50° BEND	
	45° BEND	
	90° BEND	
	TEE	
	CAP	
M	WATER METER	M
	SPRINKLER HEAD	
	TRACER WIRE BOX	

STORM SEWER

EXISTING		PROPOSED
ST ST	STORM SEWER	ST ST
DT DT	DRAIN TILE	DT DT
	DITCH LINE (PAVED)	
	DITCH LINE (UNPAVED)	
D	STORM MANHOLE	
	CATCH BASIN	
	STORM SEWER INLET	
	STORM SEWER INLET – BEHIND CURB	
	DOWNSPOUT	
X" TYPE	CULVERT AND SIZE	X" TYPE
	RCCP OR RCP EQRS (RCAP) END SECTION	
	METAL OR HDPE END SECTION	
	FLOW DIRECTION	

EROSION CONTROL

EXISTING		PROPOSED
	EROSION CONTROL BLANKET	
	TEMPORARY AND PERMANENT SEEDING AREA	
	UNDISTURBED AREA	
	STABILIZED CONSTRUCTION ENTRANCE	
	SILT FENCE	
	INLET PROTECTION	
	TEMPORARY SEDIMENT TRAP	
	CULVERT INLET PROTECTION	
	ROCK OUTLET PROTECTION	
	ROCK CHECK DAM – COURSE AGGREGATE	
	ROCK CHECK DAM – RIP RAP	
	DITCH CHECK	

UTILITY

EXISTING		PROPOSED
FO FO	FIBER OPTIC LINE	FO FO
TV TV	UNDERGROUND TV CABLE	TV TV
	CABLE TV RISER PEDESTAL	
OU	OVERHEAD UTILITY	OU
UE UE	UNDERGROUND ELECTRIC	UE UE
	ELECTRIC RISER PEDESTAL	
E	ELECTRIC MANHOLE	E
T T	UNDERGROUND TELEPHONE	T T
	TELEPHONE RISER PEDESTAL	
T	TELEPHONE MANHOLE	T
	UTILITY POLE	
	UTILITY POLE W/ METER	
	UTILITY POLE W/ TRANSFORMER	
	UTILITY POLE W/ LIGHT	
	UTILITY POLE WITH GUY WIRE AND ANCHOR	
	LIGHT (MAST MOUNTED)	
	LIGHT POLE (SINGLE FIXTURE)	
	YARD LIGHT	
G G	GAS MAIN	G G
M	GAS METER	M
	GAS VALVE	
G	GAS STRUCTURE	G

TRAFFIC RELATED

EXISTING		PROPOSED
	CONTROLLER	
	MAST ARM ASSEMBLY AND POLE	
	SIGNAL HEAD AND POST	
	SIGNAL HEAD	
	PEDESTRIAN HEAD	
	PEDESTRIAN PUSH–BUTTON	
	HAND HOLE	
	DOUBLE HAND HOLE	
	HAND HOLE OR JUNCTION BOX	
	HEAVY–DUTY HAND HOLE	
(5" = 2")	EXISTING CONDUIT (LENGTH AND SIZE) PROP GALVANIZED STEEL OR PVC CONDUIT UPPER MATERIAL INDICATES LENGTH "T" INDICATES CONDUIT IN TRENCH "P" INDICATED CONDUIT PUSHED LOWER NUMERAL INDICATES SIZE AND TYPE	5' – T 2" GS–PVC
	LUMINAIRE	
	ARROW – THROUGH, TURN LEFT	
	ARROW – THROUGH	
	ARROW – TURN LEFT	
	ARROW – TURN RIGHT	
ONLY	ONE DIRECTION TURN ONLY	ONLY
	HANDICAPPED PARKING STALL	
	TRAFFIC DETECTOR LOOP	
	TRAFFIC CONTROL BOX	

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OWNER/DEVELOPER:
CITY OF WEST BRANCH
110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING: LEGEND

SET TYPE: PRELIMINARY

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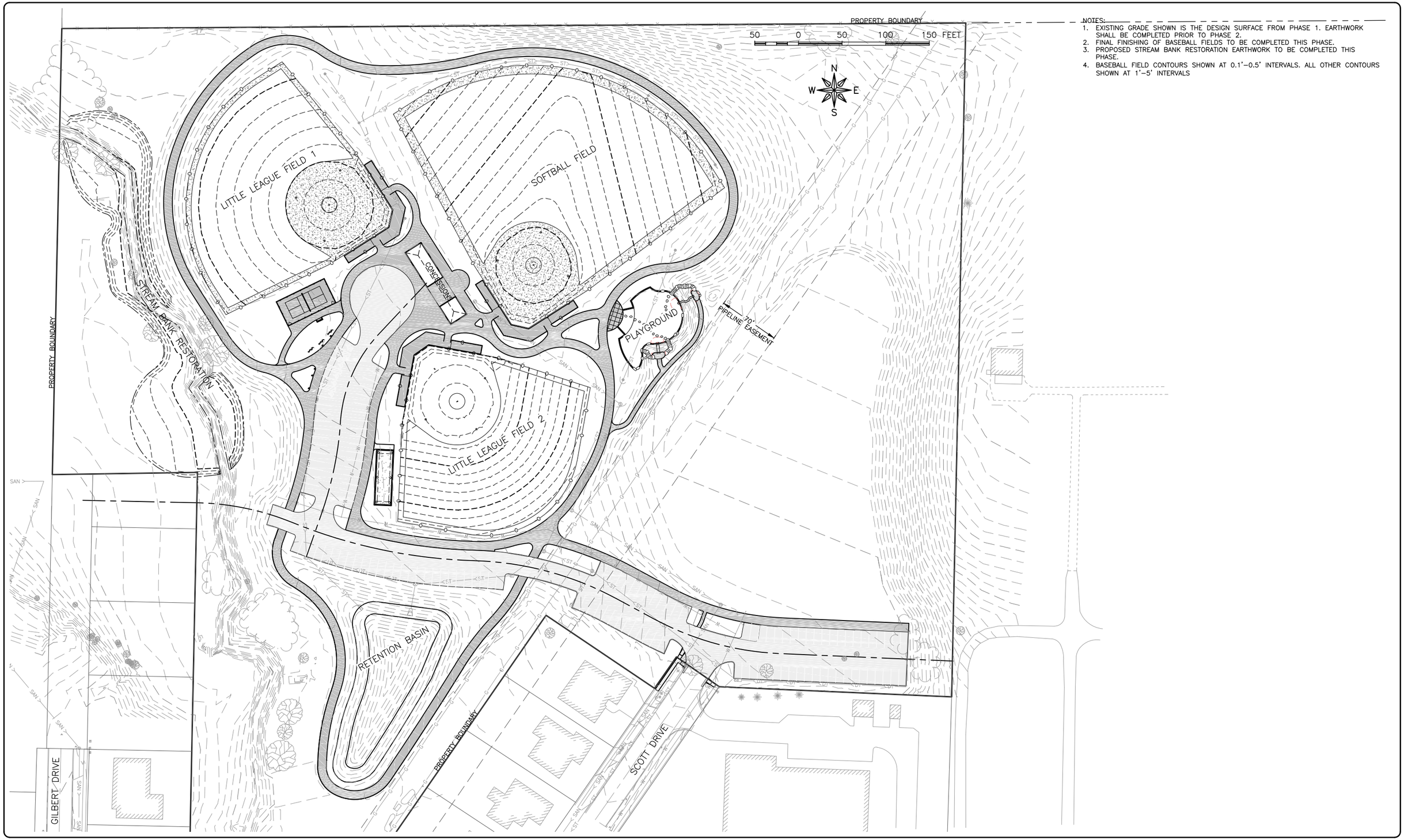
JOB NUMBER: 16-072

SHEET NUMBER: A.02

PLOT DATE: 5/15/17



NOTES:
1. EXISTING GRADE SHOWN IS THE DESIGN SURFACE FROM PHASE 1. EARTHWORK SHALL BE COMPLETED PRIOR TO PHASE 2.
2. FINAL FINISHING OF BASEBALL FIELDS TO BE COMPLETED THIS PHASE.
3. PROPOSED STREAM BANK RESTORATION EARTHWORK TO BE COMPLETED THIS PHASE.
4. BASEBALL FIELD CONTOURS SHOWN AT 0.1'–0.5' INTERVALS. ALL OTHER CONTOURS SHOWN AT 1'–5' INTERVALS

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110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

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REV. NO.	DESCRIPTION	DATE

DRAWING: SITE MAP

SET TYPE: PRELIMINARY
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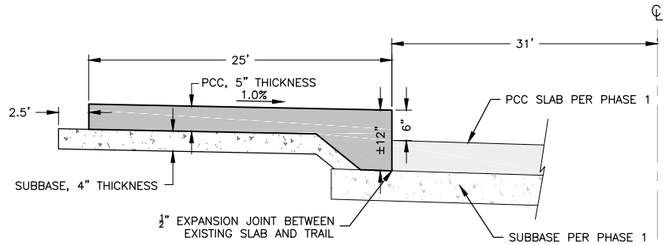
JOB NUMBER: 16–072

SHEET NUMBER: A.03

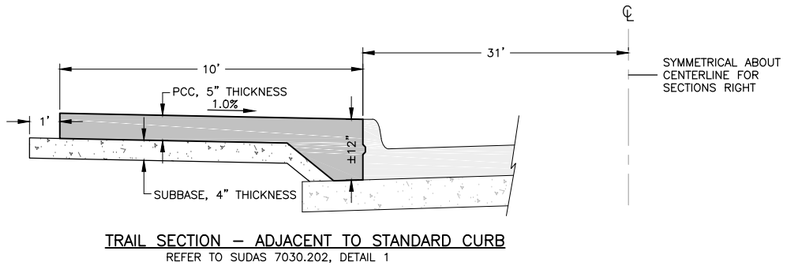
PLOT DATE: 5/15/17



TRAIL SECTION – ADJACENT TO EDGE SLAB

REFER TO SUDAS 7030.202, DETAIL 3

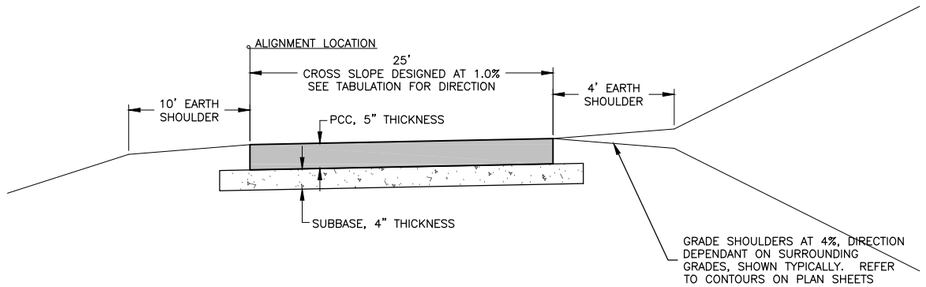
LOCATION			LENGTH	PCC	SUBBASE	REMARKS
ALIGNMENT	STATION TO STATION	SIDE	(FEET)	(SY)	(TON)	
MAIN DRIVE	2+75.39	2+80.34	LT.			IRREGULAR, SEE PLAN VIEW
	2+80.34	4+84.34	LT.			
	4+84.34	5+88.61	LT.			NOT ADJACENT TO CURB, OMIT THICKENED EDGE
	5+88.61	7+16.21	LT.			
	7+16.21	7+95.34	LT.			NOT ADJACENT TO CURB, OMIT THICKENED EDGE
	7+95.34	9+68.21	LT.			



TRAIL SECTION – ADJACENT TO STANDARD CURB

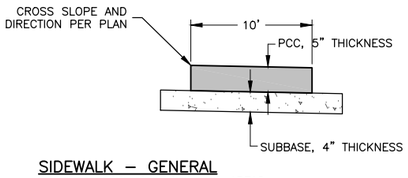
REFER TO SUDAS 7030.202, DETAIL 1

LOCATION			LENGTH	PCC	SUBBASE	REMARKS
ALIGNMENT	STATION TO STATION	SIDE	(FEET)	(SY)	(TON)	
ACCESSORY DRIVE	20+35.95	23+11.49	LT.			
	20+41.00	23+11.49	RT.			



TRAIL SECTION – GENERAL

LOCATION			LENGTH	SLOPE	PCC	SUBBASE
ALIGNMENT	STATION TO STATION		(FEET)	DIRECTION (FROM ALIGN.)	(SY)	(TON)
TRAIL NORTH OF MAIN DRIVE						
TRAIL SOUTH OF MAIN DRIVE						



SIDEWALK – GENERAL

SEE PLAN FOR LOCATIONS AND AREAS

GENERAL NOTES:

1. SECTIONS SHOWN ARE IN GENERAL, PLAN NOTATION AND ELEVATIONS GOVERN. SEE PLAN VIEWS FOR PAVEMENT INTERACTION BETWEEN SECTIONS.
2. ALL SUBBASE SHALL BE MODIFIED SUBBASE, IOWA DOT GRADATION No. ##, UNLESS NOTED OTHERWISE IN THE PLANS.
3. ALL CURB AND GUTTERS WERE BACKFILLED FROM PHASE 1. REMOVAL OF SOILS FOR TRAIL SHALL BE PAID FOR UNDER ######
4. CROSS SLOPES OF TRAILS AND SIDEWALKS ARE DESIGNED AT 1%. ANY PORTIONS OF TRAILS OR SIDEWALKS INSTALLED WITH CROSS SLOPES EXCEEDING 2% SHALL BE REJECTED BY THE JURISDICTION.
5. LANDING AREAS (ANY LOCATION WHERE TRAILS AND/OR SIDEWALKS INTERSECT) WITH SLOPES EXCEEDING 2.% IN ANY DIRECTION SHALL BE REJECTED BY THE JURISDICTION.
6. PORTIONS OF REJECTED SIDEWALK OR TRAIL SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

FEHR GRAHAM
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110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
TYPICAL CROSS SECTIONS – TRAILS AND SIDEWALKS

SET TYPE: PRELIMINARY
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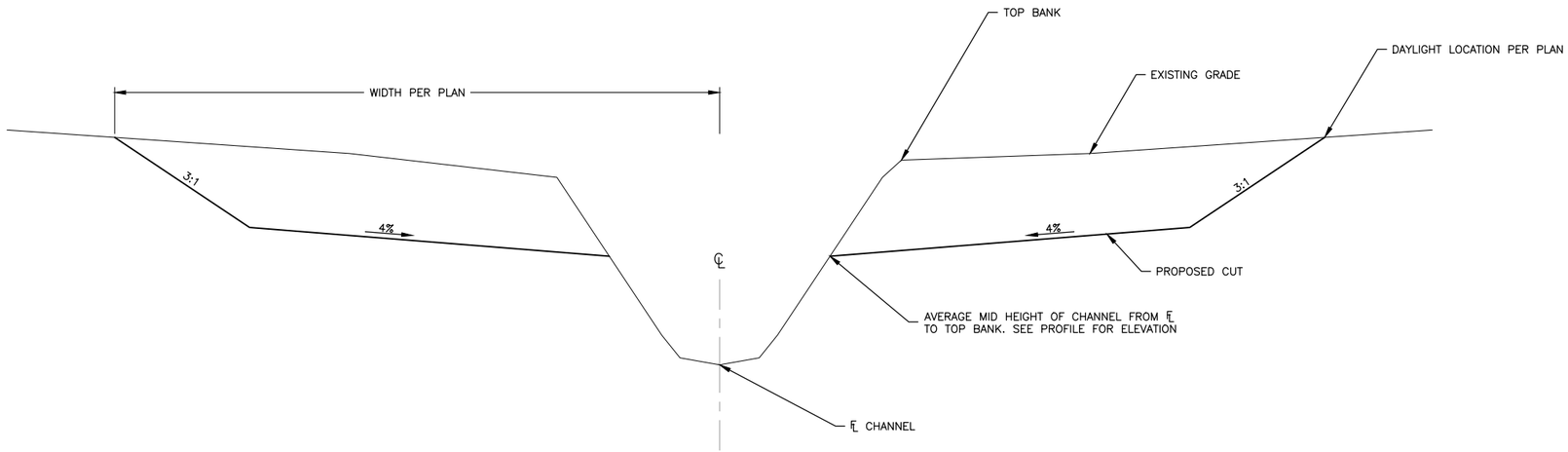

WETLANDS MITIGATION SECTION

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OWNER/DEVELOPER:
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110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

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WEST BRANCH, IOWA

DRAWN BY: AJB
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DATE: DATE
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
TYPICAL CROSS SECTION – WETLAND MITIGATION

SET TYPE: PRELIMINARY
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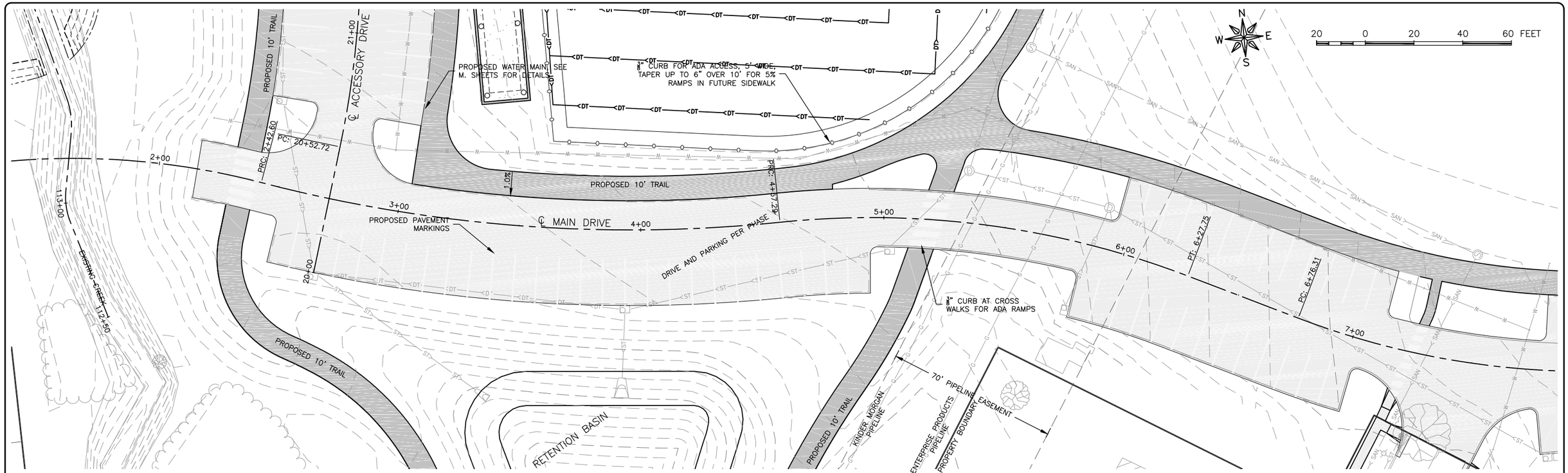
JOB NUMBER:
16-072

SHEET NUMBER:
B.02

PLOT DATE: 5/15/17



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CITY OF WEST BRANCH
110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

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CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

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DRAWING:
TRAIL PLAN AND MAIN DRIVE PAVEMENT MARKINGS

SET TYPE: PRELIMINARY
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JOB NUMBER: 16-072

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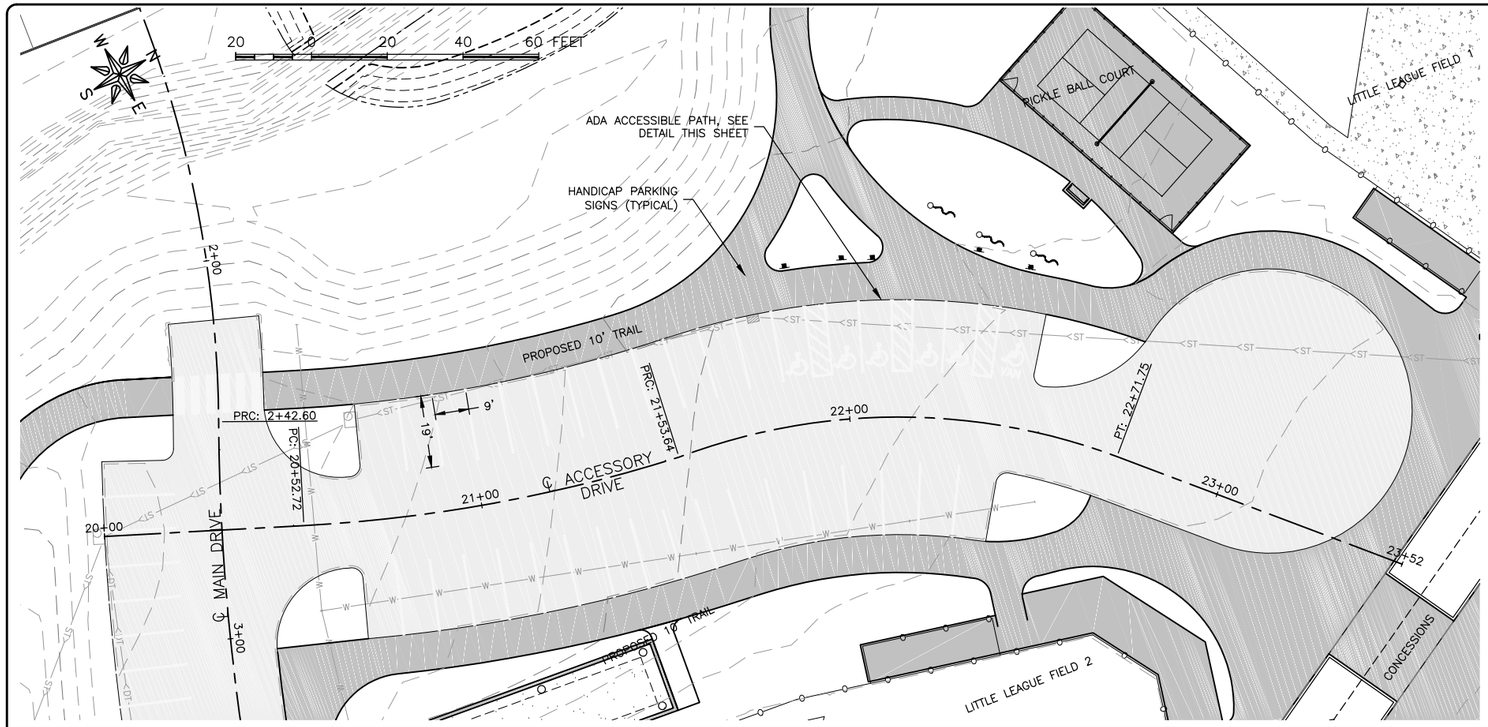
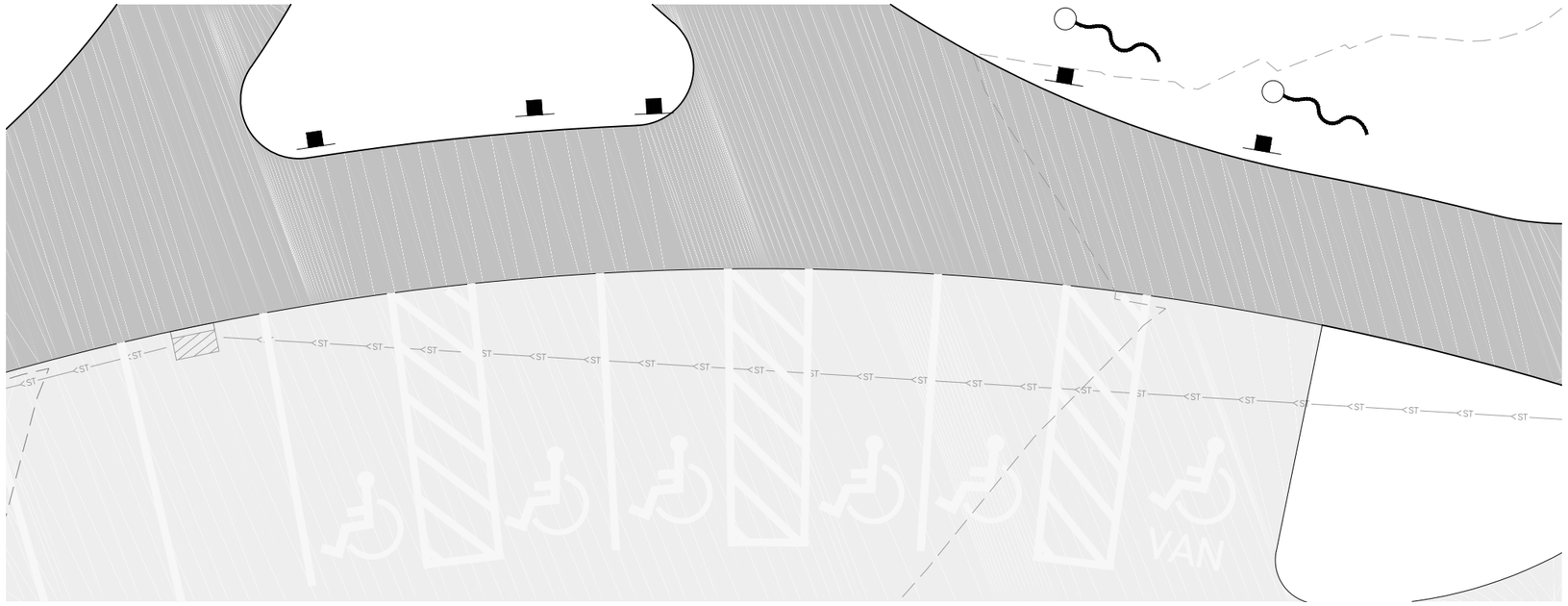
PLOT DATE: 5/15/17





DETAIL D.02–1
SCALE: 1"=10'

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WISCONSIN

OWNER/DEVELOPER:
CITY OF WEST BRANCH
110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
TRAIL PLAN AND ACCESSORY DRIVE PAVEMENT MARKINGS

SET TYPE: PRELIMINARY
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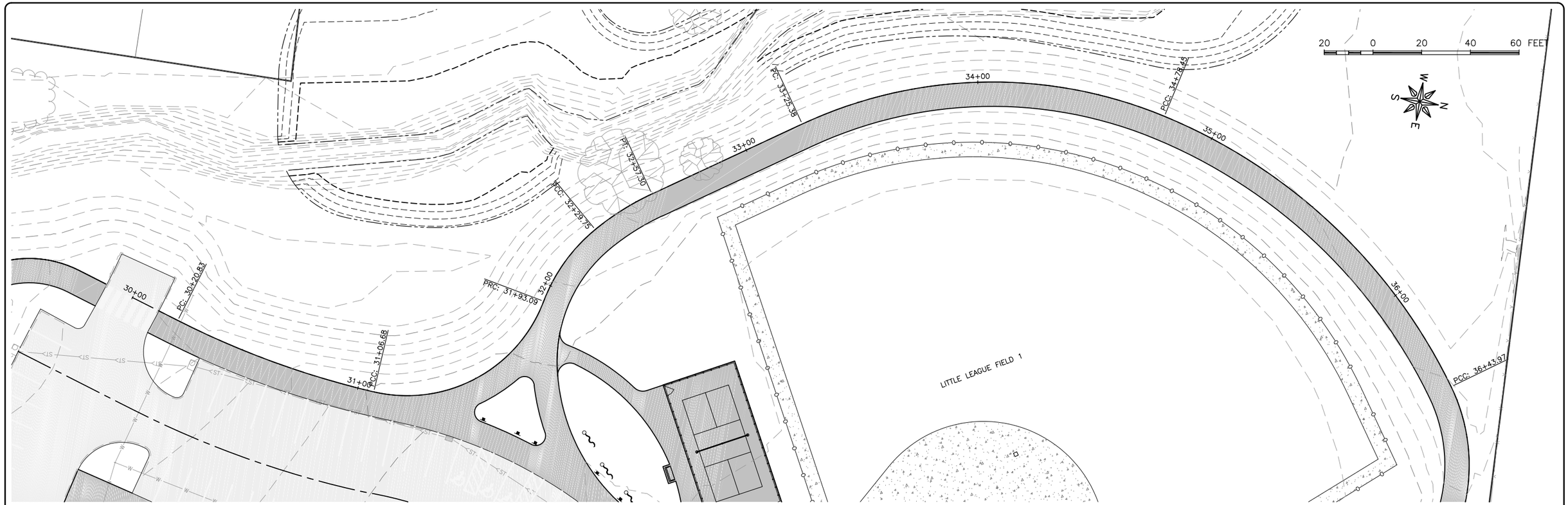
JOB NUMBER: 16–072

SHEET NUMBER: D.02

PLOT DATE: 5/15/17



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DRAWN BY: AJB
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DATE: DATE
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
TRAIL PLAN AND PROFILE

SET TYPE: PRELIMINARY
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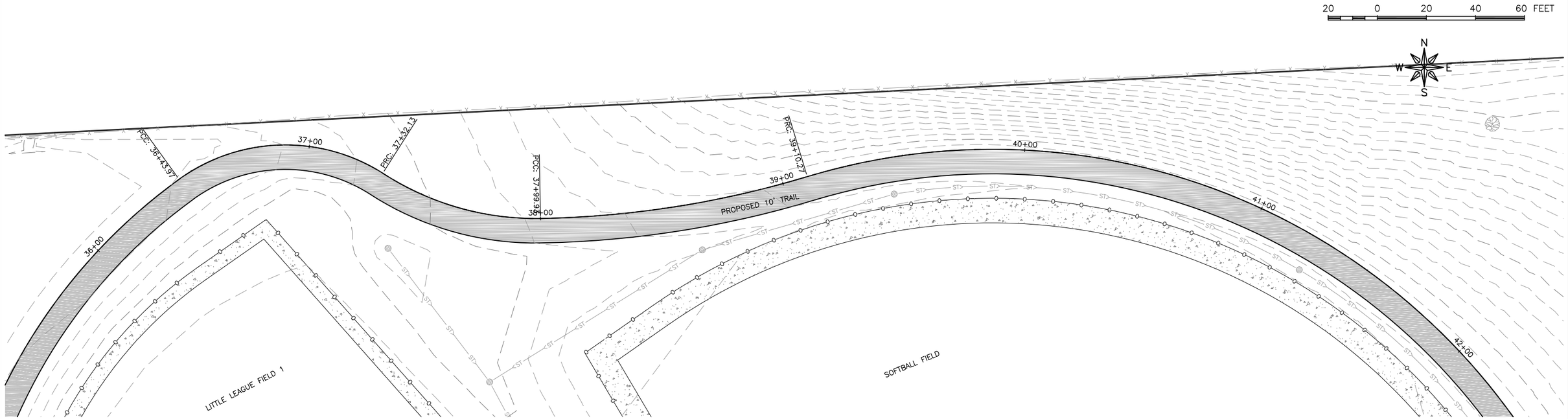
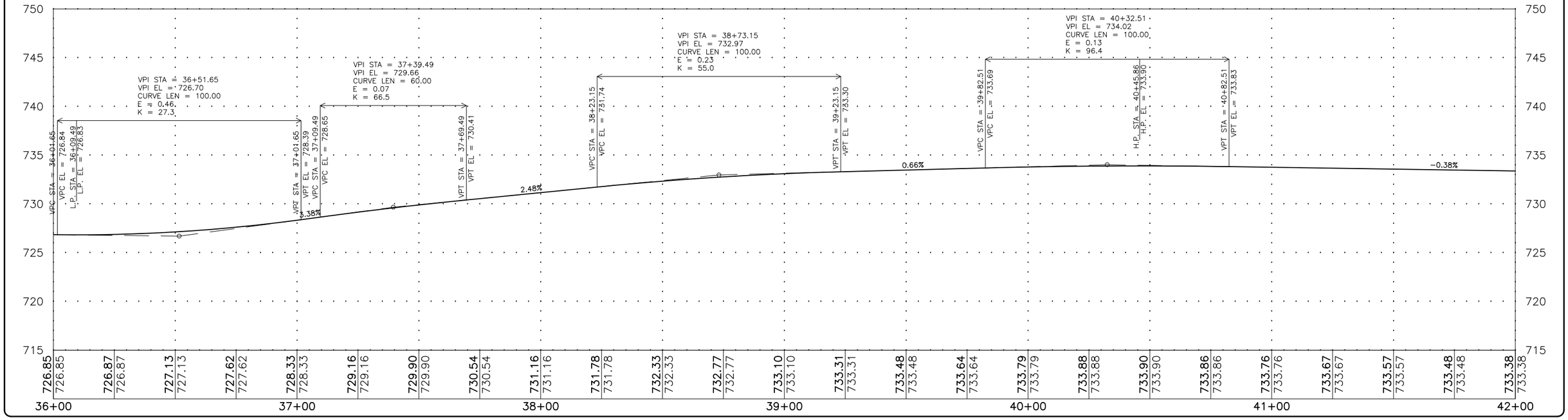
JOB NUMBER:
16-072

SHEET NUMBER:
D.03

PLOT DATE: 5/15/17





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DRAWN BY: AJB
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DATE: DATE
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REVISIONS

REV. NO.	DESCRIPTION	DATE

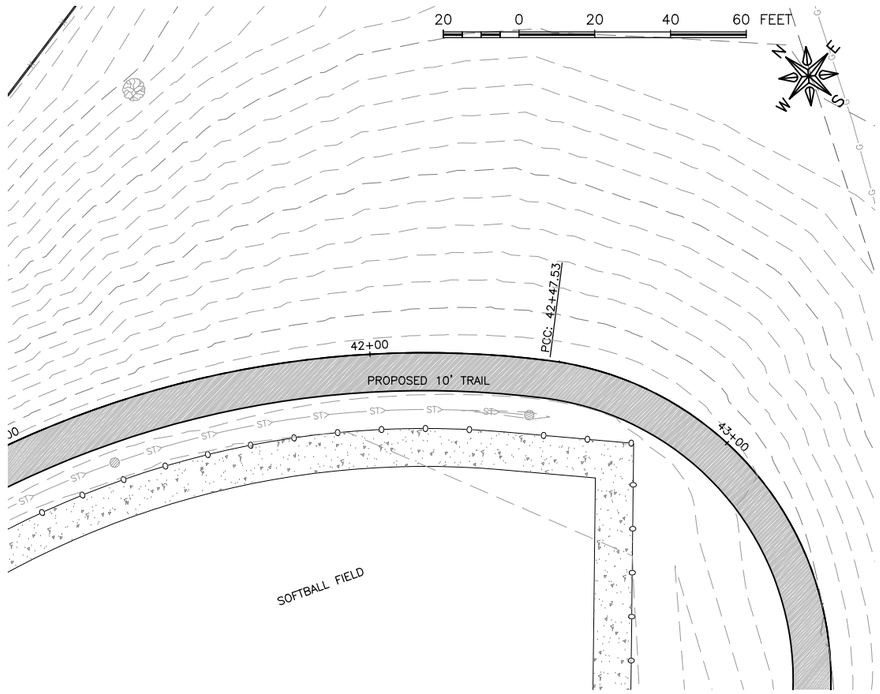
DRAWING:
TRAIL PLAN AND PROFILE

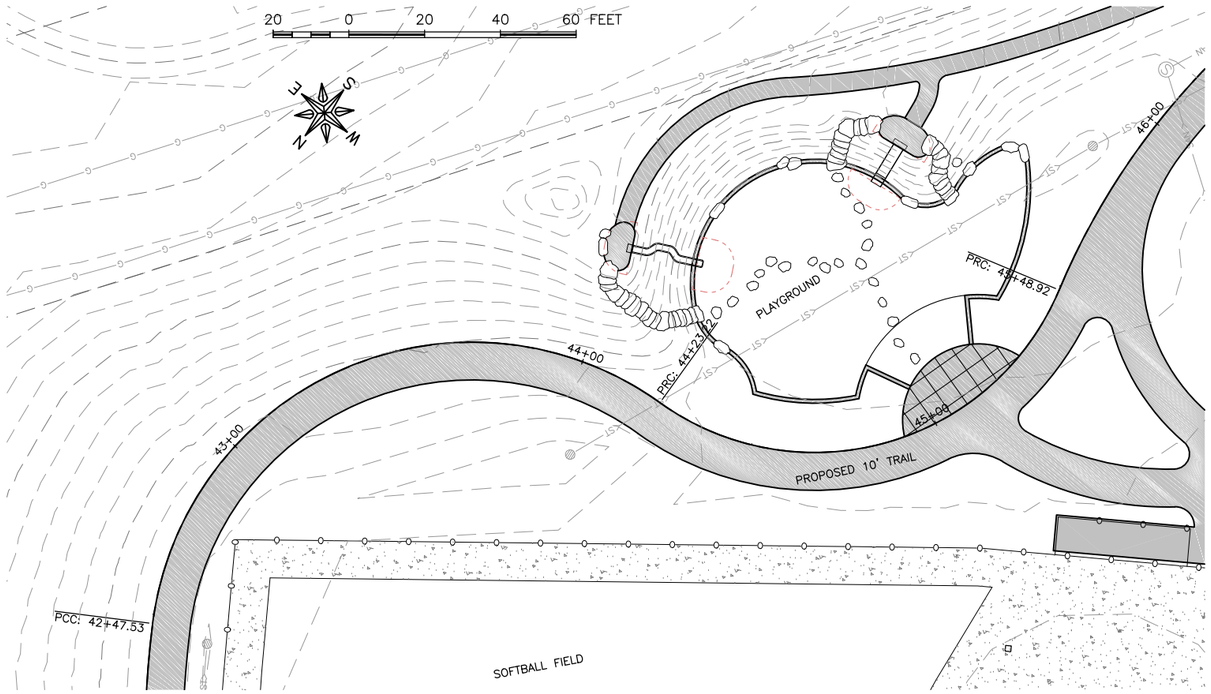
SET TYPE: PRELIMINARY
G:\C3D\16\16-072\Plans\16-072 Plans PH2.dwg, D.04

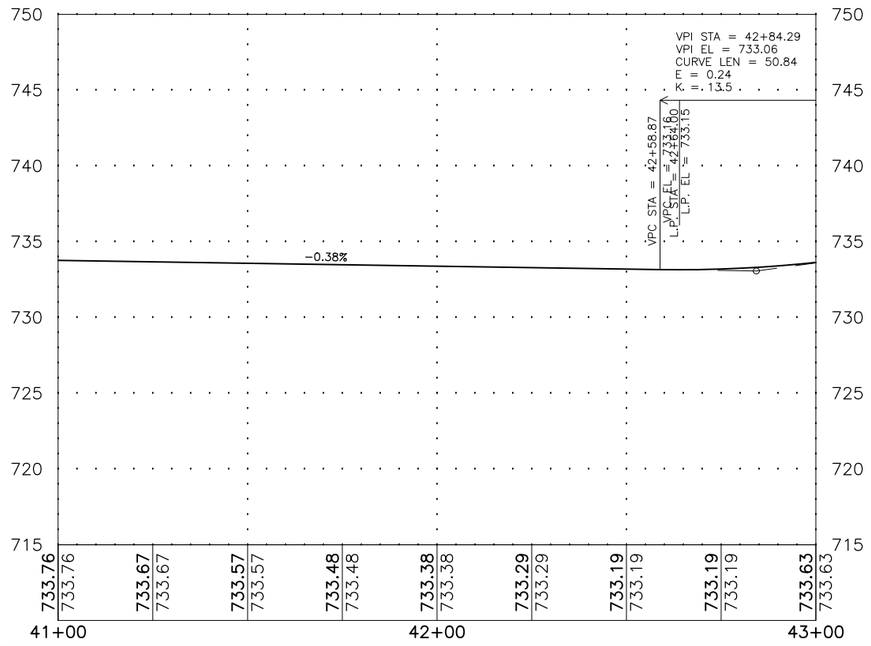
JOB NUMBER:
16-072

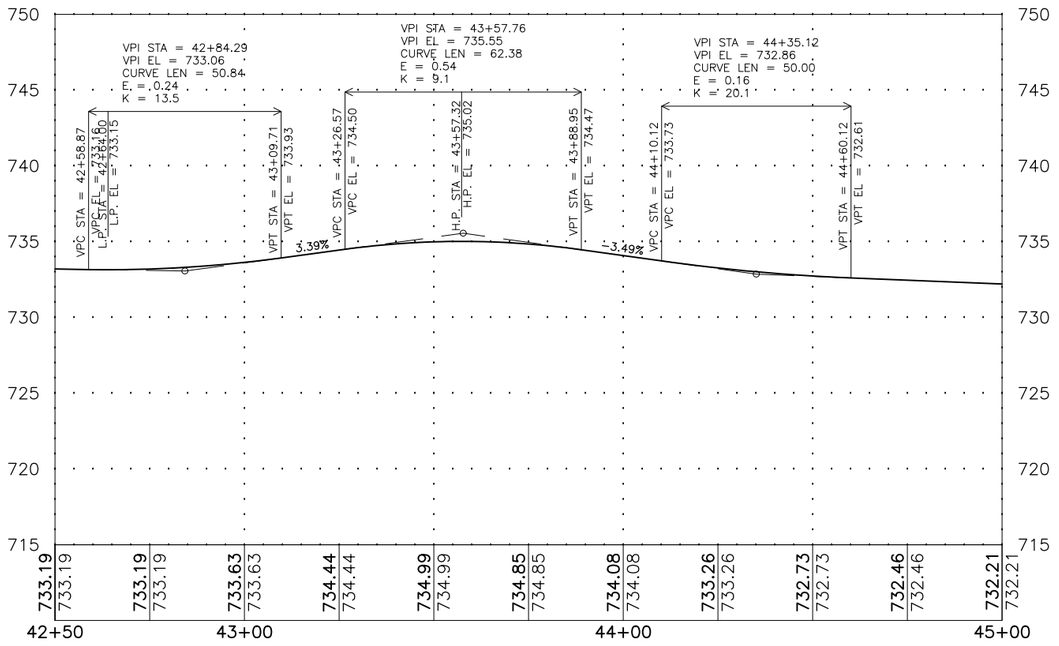
SHEET NUMBER:
D.04

PLOT DATE: 5/15/17









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REVISIONS

REV. NO.	DESCRIPTION	DATE

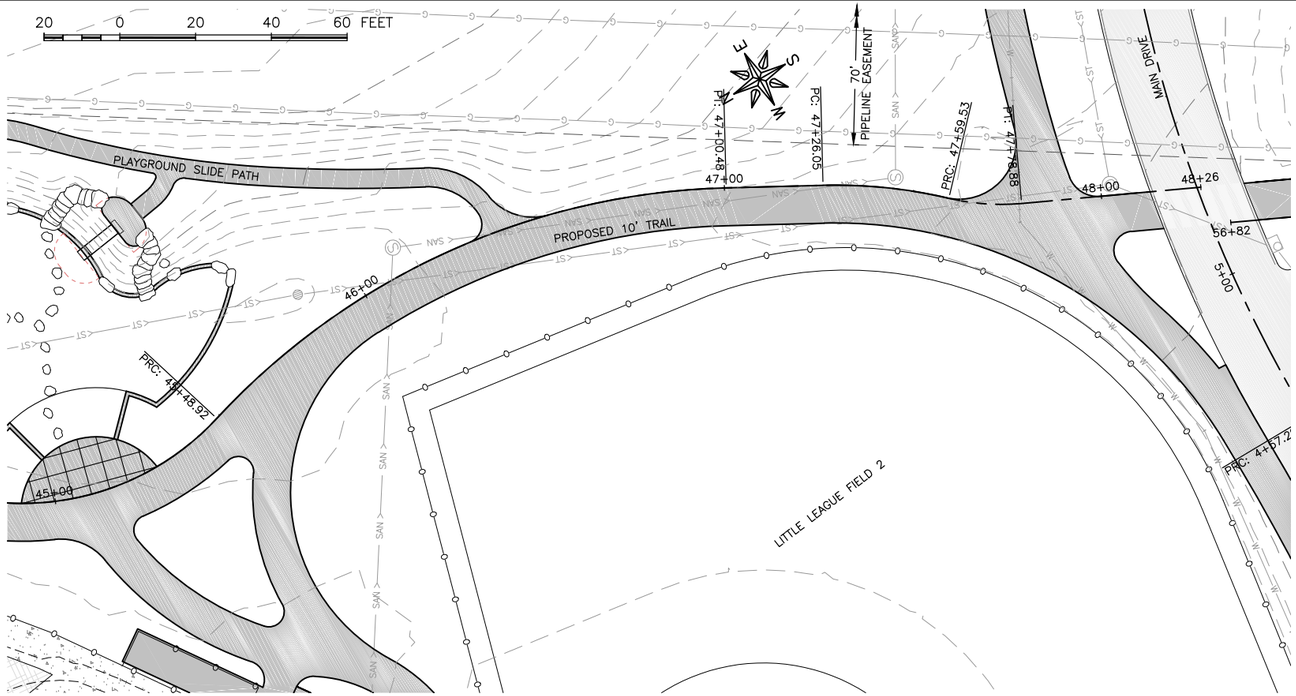
DRAWING:
TRAIL PLAN AND PROFILE

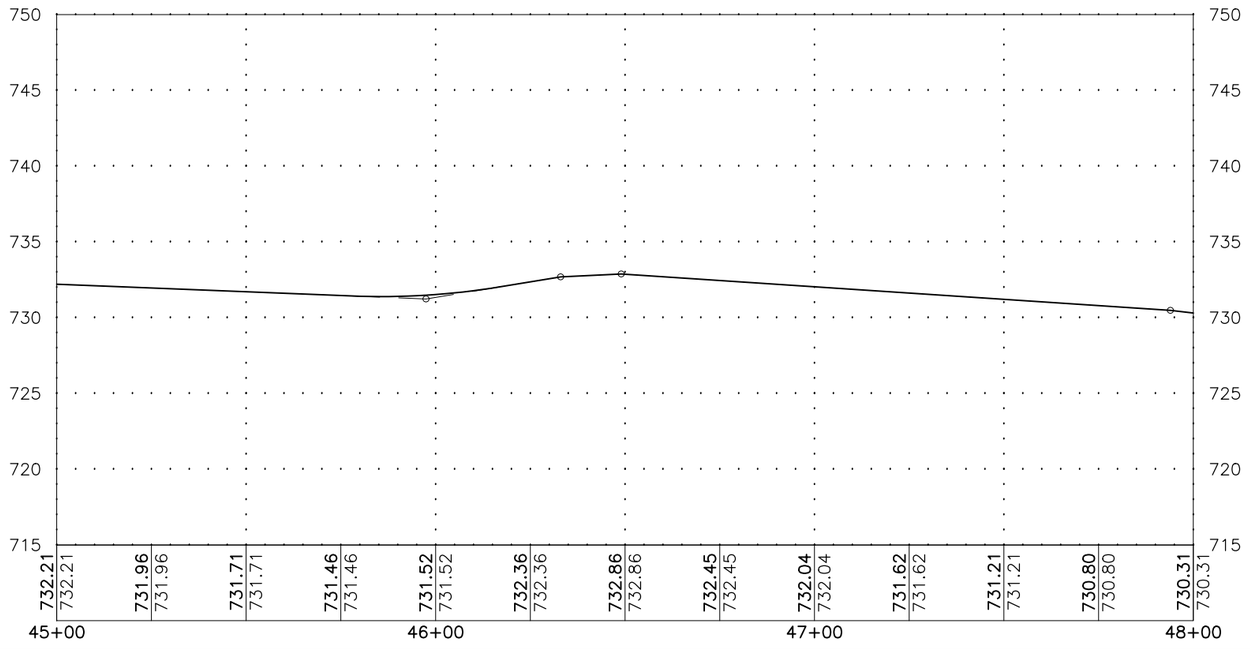
SET TYPE: PRELIMINARY
G:\C3D\16\16-072\Plans\16-072 Plans PH2.dwg, D.05

JOB NUMBER:
16-072

SHEET NUMBER:
D.05

PLOT DATE: 5/15/17





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REVISIONS

REV. NO.	DESCRIPTION	DATE

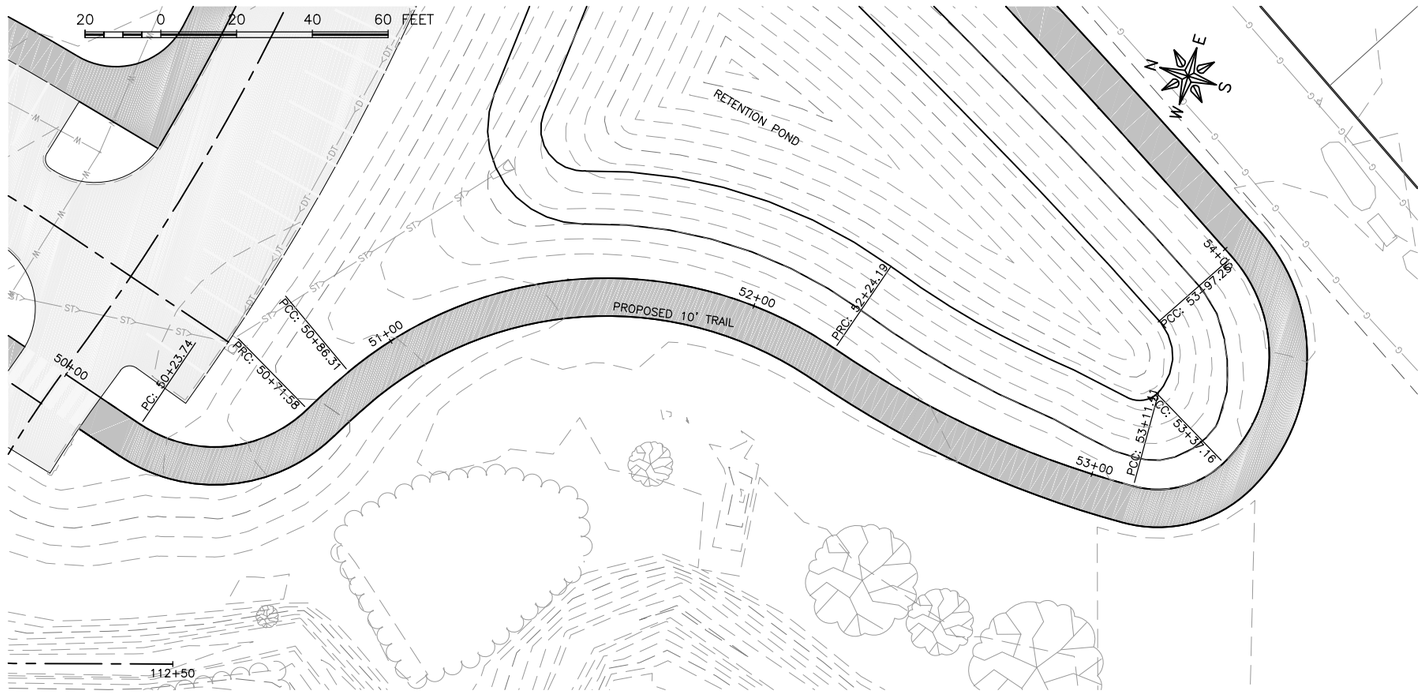
DRAWING:
TRAIL PLAN AND PROFILE

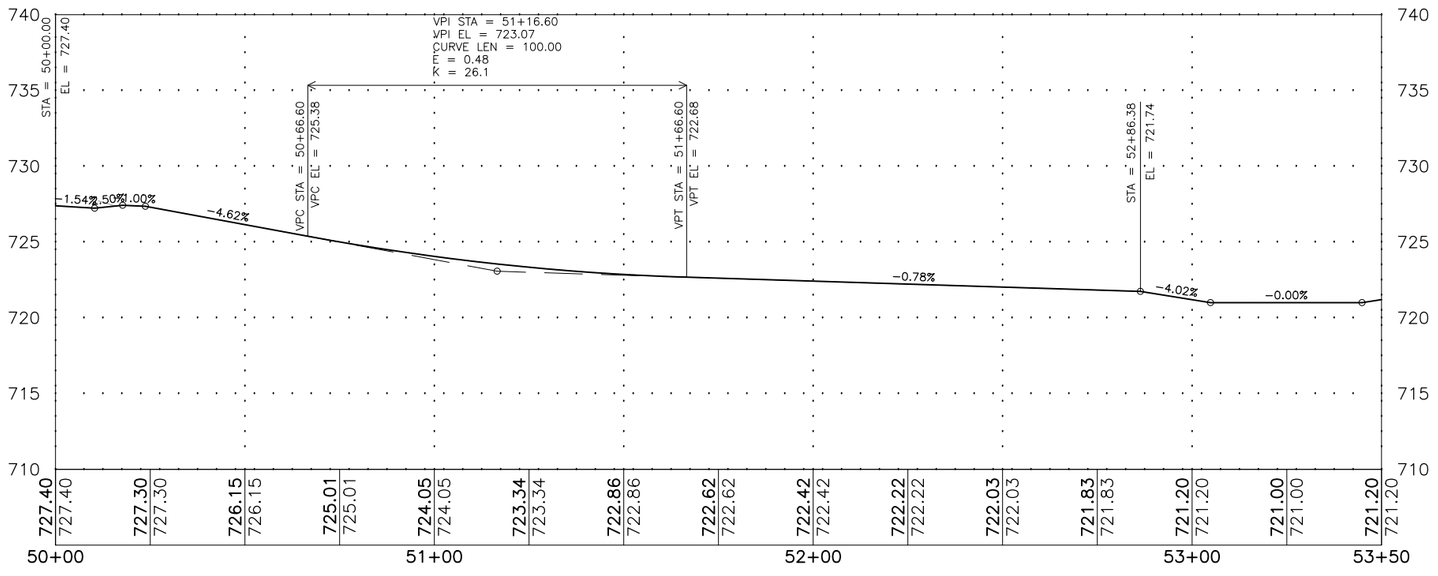
SET TYPE: PRELIMINARY
G:\C3D\16\16-072\Plans\16-072 Plans PH2.dwg, D.06

JOB NUMBER:
16-072

SHEET NUMBER:
D.06

PLOT DATE: 5/15/17





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DATE: DATE
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

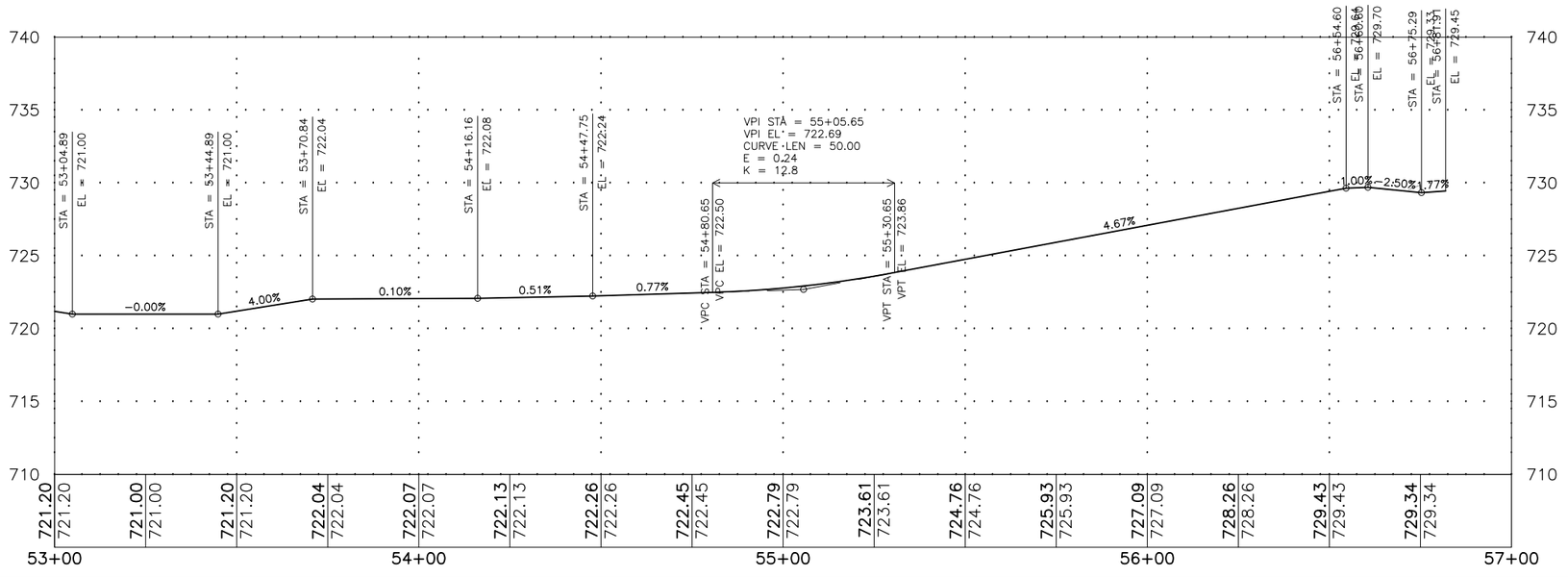
DRAWING:
TRAIL PLAN AND PROFILE

SET TYPE: PRELIMINARY
G:\C3D\16\16-072\Plans\16-072 Plans PH2.dwg, D.07

JOB NUMBER:
16-072

SHEET NUMBER:
D.07

PLOT DATE: 5/15/17



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WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
TRAIL PLAN AND PROFILE

SET TYPE: PRELIMINARY
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JOB NUMBER:
16-072

SHEET NUMBER:
D.08

PLOT DATE: 5/15/17

20 0 20 40 60 FEET

GENERAL NOTES:
1. CONTOURS WITHIN THE FIELD LIMITS ARE SHOWN AT 0.1' INTERVALS. ALL OTHER AREAS ARE SHOWN AT 1.0' INTERVALS.
2. BALL FIELDS ARE ROUGH GRADED AND TEMPORARILY SEEDED FROM PHASE 1.

HATCHING LEGEND

GRAVEL BALLFIELD SURFACING, REFER TO SUPPLEMENTAL SPECIFICATIONS ON SHEET C.01–C.02

FINAL BALLFIELD SURFACE PREPARATION AND SEEDING

PROPERTY BOUNDARY

MATCH GRADES AT EXISTING FENCE

PROPOSED TRAIL

CREEK

SWALE ALONG TRAIL

SWALE BETWEEN FIELDS

6'

0.50% TO FENCELINE

210'

200'

PLACE HIGH POINT AT CENTER OF INFIELD AND SLOPE AT 0.5% ALL DIRECTIONS (TURTLE BACK)

0.50% TO FENCELINE

84.85'

46'

25'

SKINNED INFIELD

25'

WARNING TRACK (TYPICAL)

6'

SIDEWALK

FENCING AND DUGOUTS PER PHASE 2

BATTERS CAGE PER PHASE 2

PICKLE BALL COURT PER PHASE 2

CONCESSIONS PER ARCHITECTURAL PLANS

23'-5"

PI: 22+47

SOFTBALL FIELD
SEE SHEET H.02

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WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
YOUTH FIELD GRADING PLAN

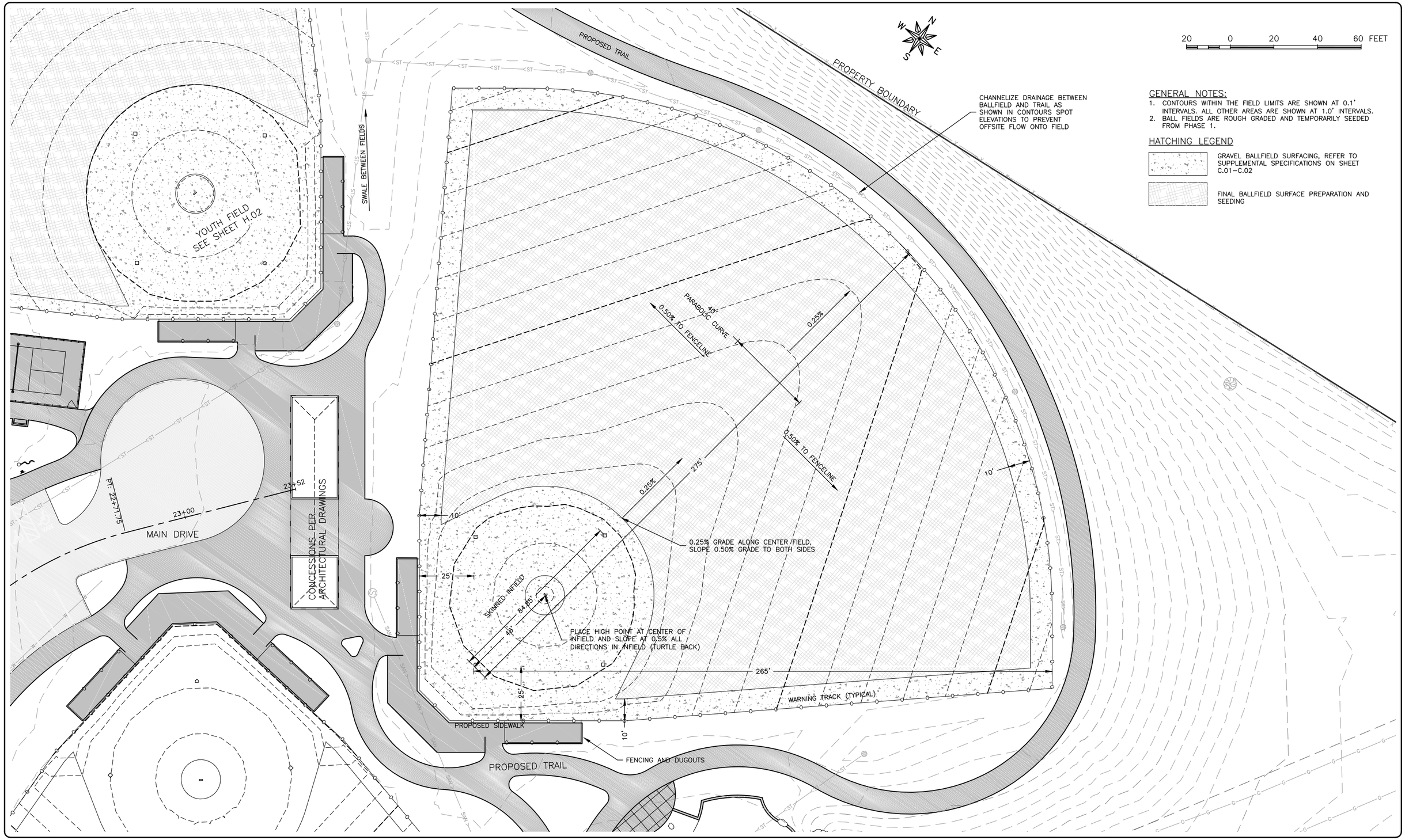
SET TYPE: PRELIMINARY

G:\C3D\16\16-072\Plans\16-072 Plans PH2.dwg, H.01

JOB NUMBER:
16–072

SHEET NUMBER:
H.01

PLOT DATE: 5/15/17



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OWNER/DEVELOPER:
CITY OF WEST BRANCH
110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

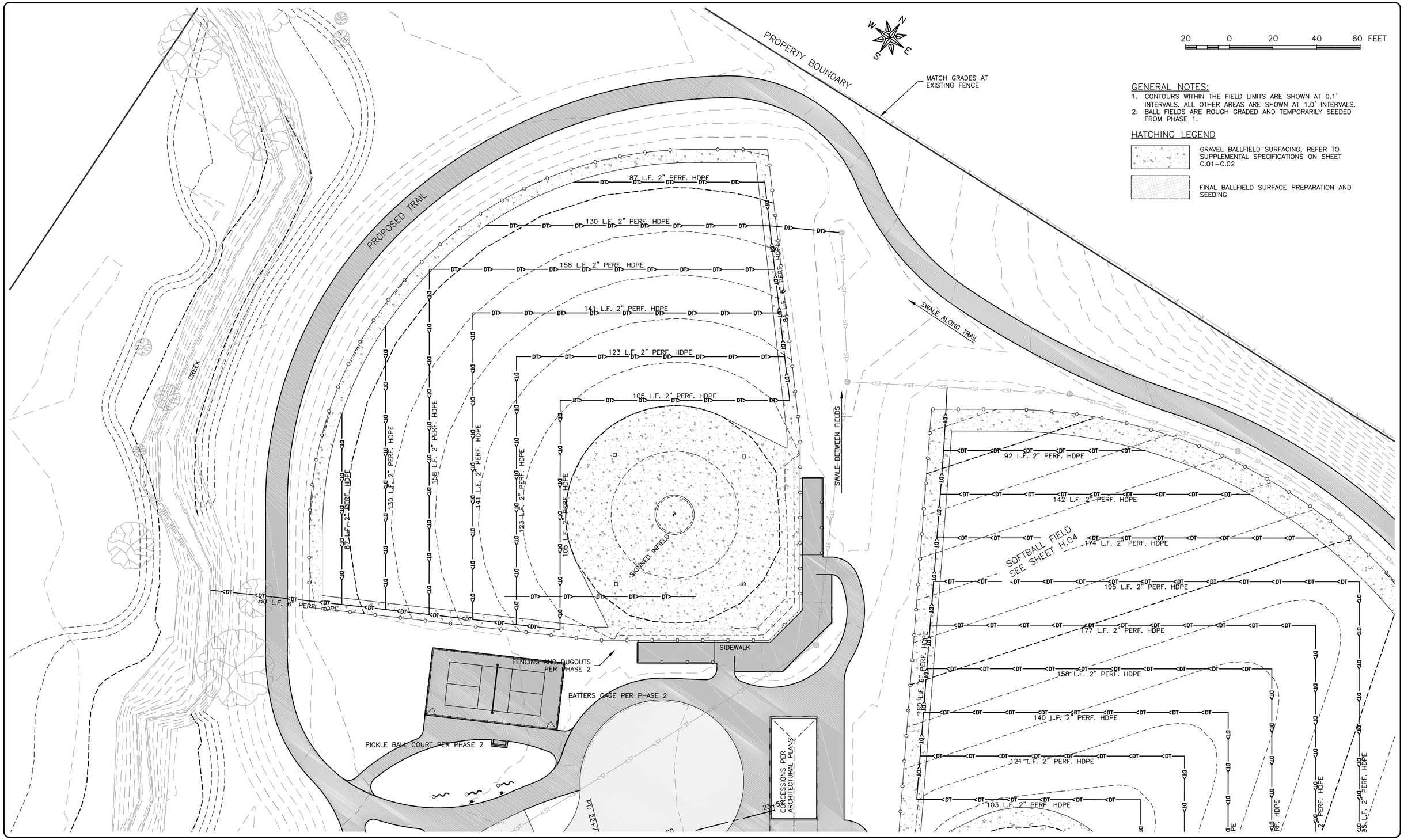
DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING: SOFTBALL FIELD GRADING PLAN
SET TYPE: PRELIMINARY
G:\C3D\16\16-072\Plans\16-072 Plans PH2.dwg, H.02

JOB NUMBER: 16–072
SHEET NUMBER: H.02

PLOT DATE: 5/15/17



GENERAL NOTES:

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2. BALL FIELDS ARE ROUGH GRADED AND TEMPORARILY SEEDED FROM PHASE 1.

HATCHING LEGEND

GRAVEL BALLFIELD SURFACING, REFER TO SUPPLEMENTAL SPECIFICATIONS ON SHEET C.01–C.02

FINAL BALLFIELD SURFACE PREPARATION AND SEEDING

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL

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OWNER/DEVELOPER:
CITY OF WEST BRANCH
110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING: YOUTH FIELD UTILITY PLAN

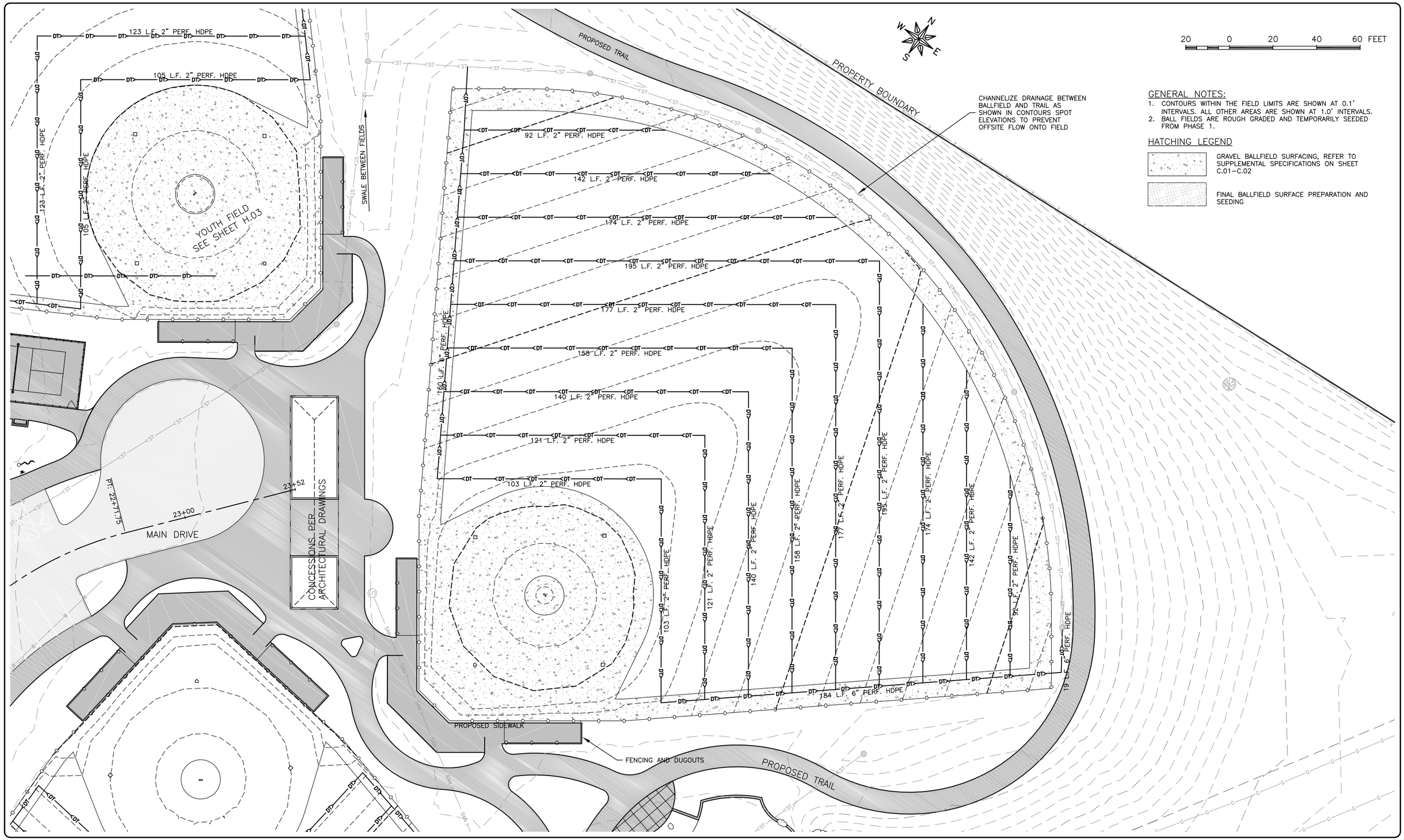
SET TYPE: PRELIMINARY

G:\C3D\16\16-072\Plans\16-072 Plans PH2.dwg, H.03

JOB NUMBER: 16–072

SHEET NUMBER: H.03

PLOT DATE: 5/15/17



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2. BALL FIELDS ARE ROUGH GRADED AND TEMPORARILY SEEDED FROM PHASE 1.

HATCHING LEGEND

GRAVEL BALLFIELD SURFACING, REFER TO SUPPLEMENTAL SPECIFICATIONS ON SHEET C.01–C.02

FINAL BALLFIELD SURFACE PREPARATION AND SEEDING

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DRAWN BY: AJB
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DATE: DATE
SCALE: AS NOTED

REVISIONS

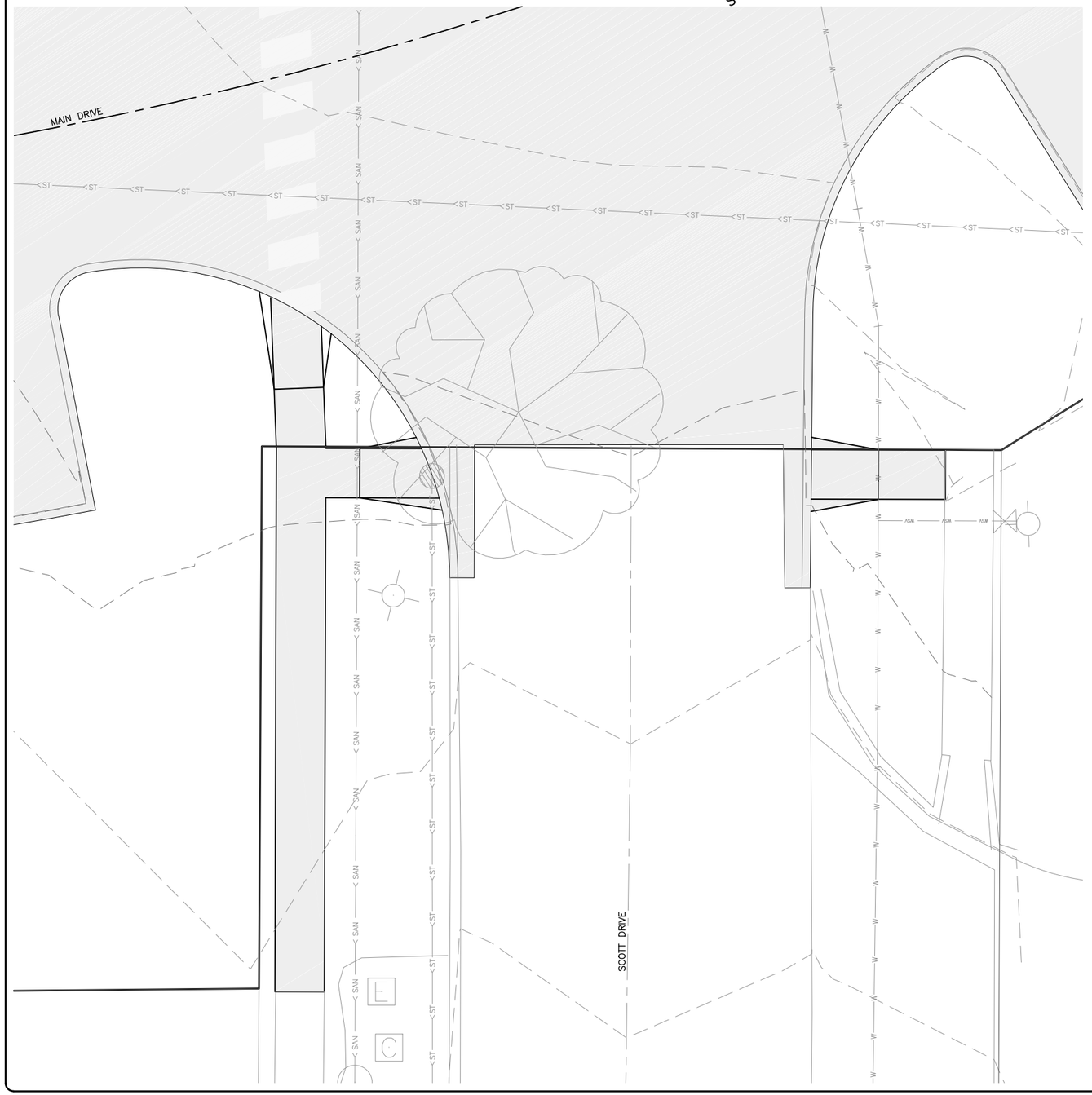
REV. NO.	DESCRIPTION	DATE

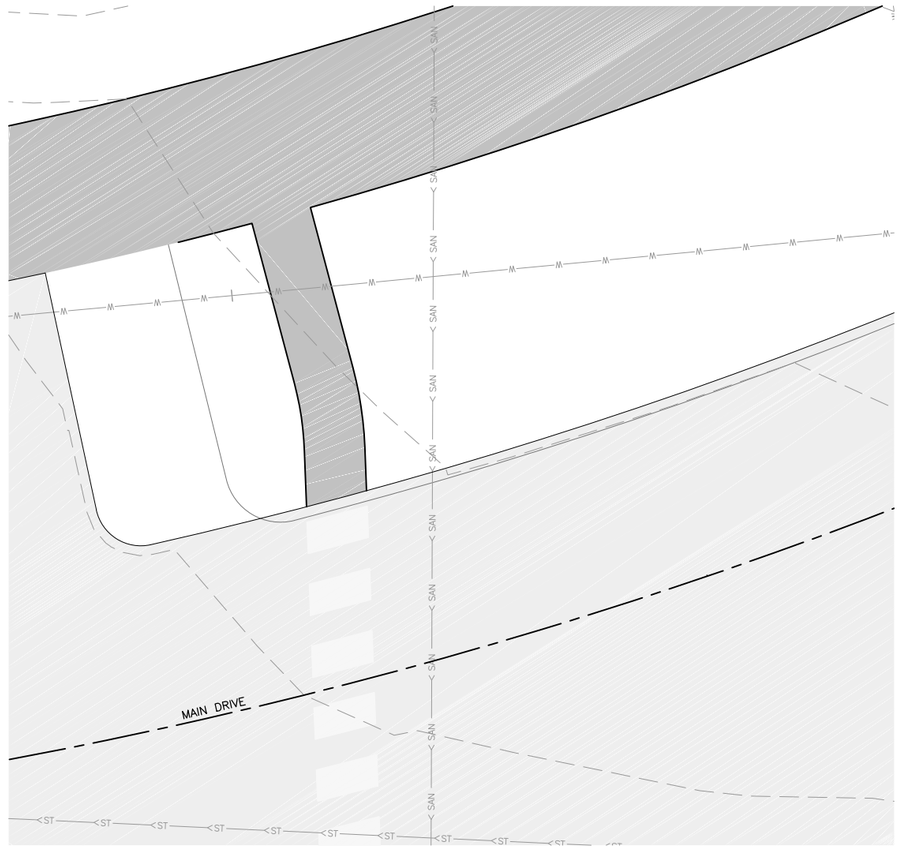
DRAWING: SOFTBALL FIELD UTILITY PLAN
SET TYPE: PRELIMINARY
C:\C3D\16\16-072\Plans\16-072 Plans PH2.dwg, H.04

JOB NUMBER: 16–072
SHEET NUMBER: H.04

PLOT DATE: 5/15/17

5 0 5 10 15 FEET





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PLOT DATE: 5/15/17

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CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

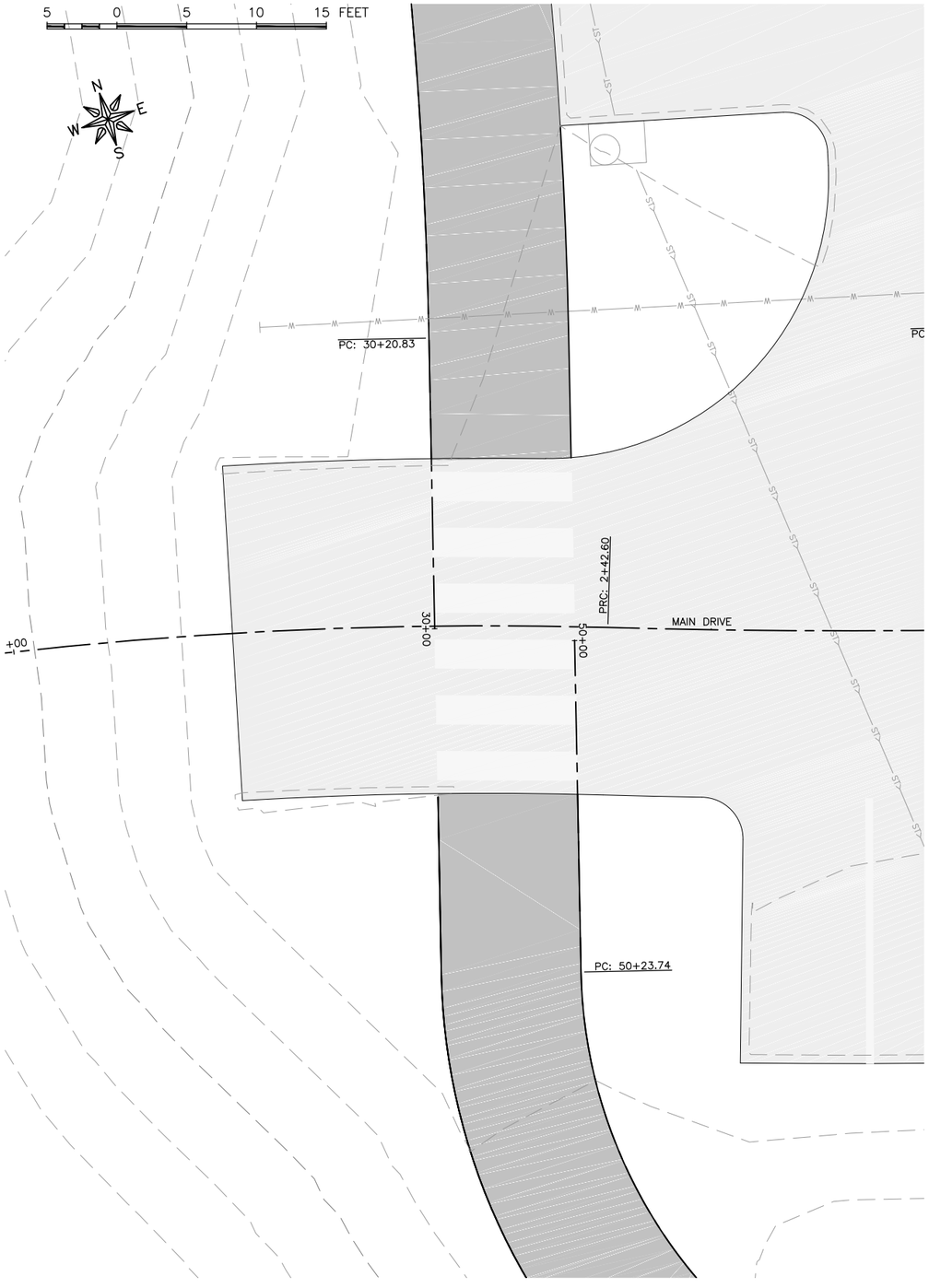
REV. NO.	DESCRIPTION	DATE

DRAWING:
SIDEWALK RAMP PLAN

SET TYPE: PRELIMINARY
G:\C3D\16\16-072\Plans\16-072 Plans PH2.dwg, S.01

JOB NUMBER:
16-072

SHEET NUMBER:
S.01



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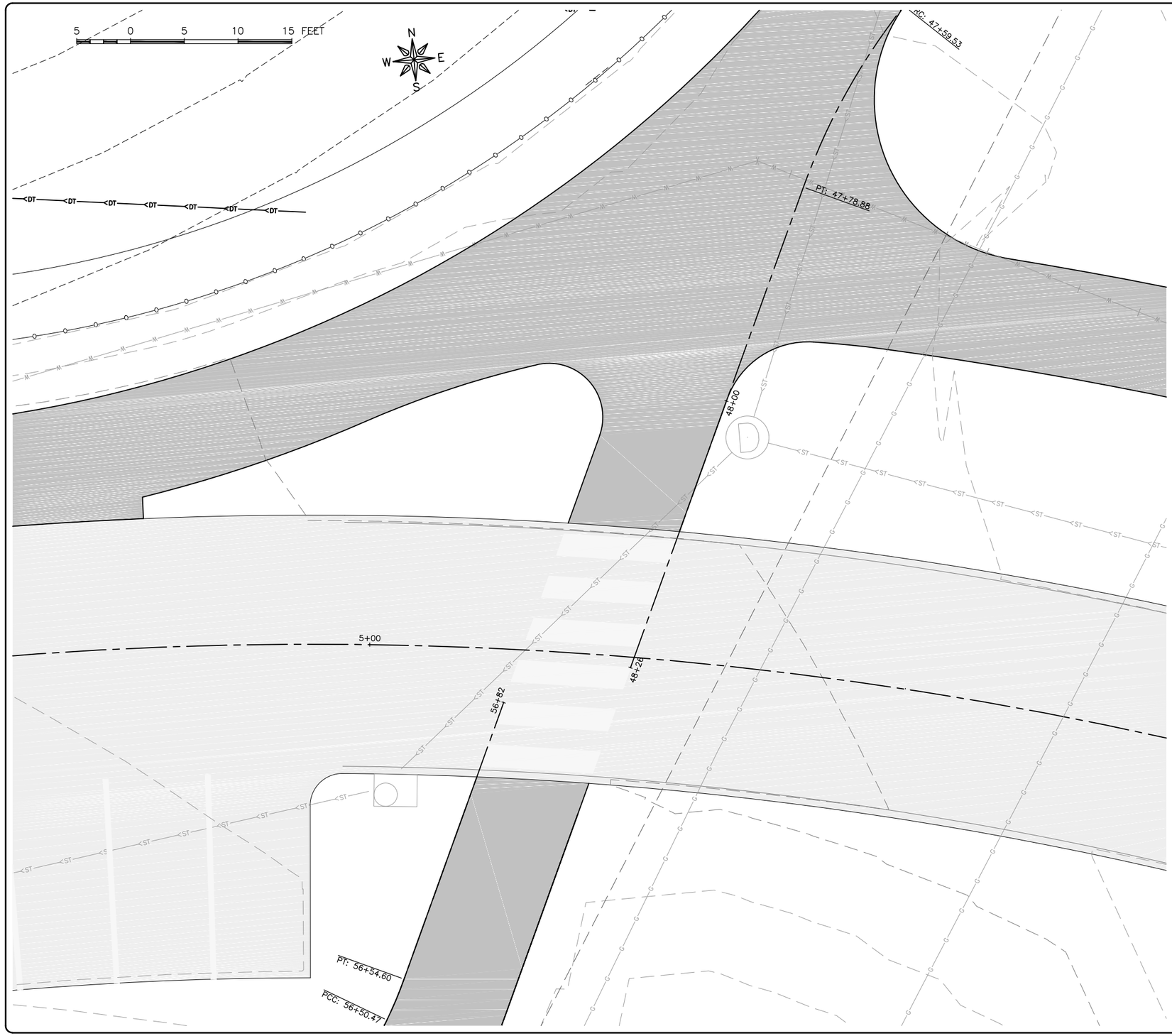
DRAWING:
SIDEWALK RAMP PLAN

SET TYPE: PRELIMINARY
G:\C3D\16\16-072\Plans\16-072 Plans PH2.dwg, S.02

JOB NUMBER:
16–072

SHEET NUMBER:
S.02

PLOT DATE: 5/15/17



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G:\C3D\16\16-072\Plans\16-072 Plans PH2.dwg, S.03

JOB NUMBER:
16–072

SHEET NUMBER:
S.03

PLOT DATE: 5/15/17

5 0 5 10 15 FEET

N
W E
S

LITTLE LEAGUE FIELD 1

PI: 22+71.7

32+00

PRC: 31+93.09

PCC: 31+06.68

31+00

22+00

ACCESSORY DRIVE

PRC: 21+53.64

SOFTBALL FIELD

45+00

PRC: 45+48.92

46+00

LITTLE LEAGUE FIELD 2

ST

SAN

W

S

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SIDEWALK RAMP PLAN

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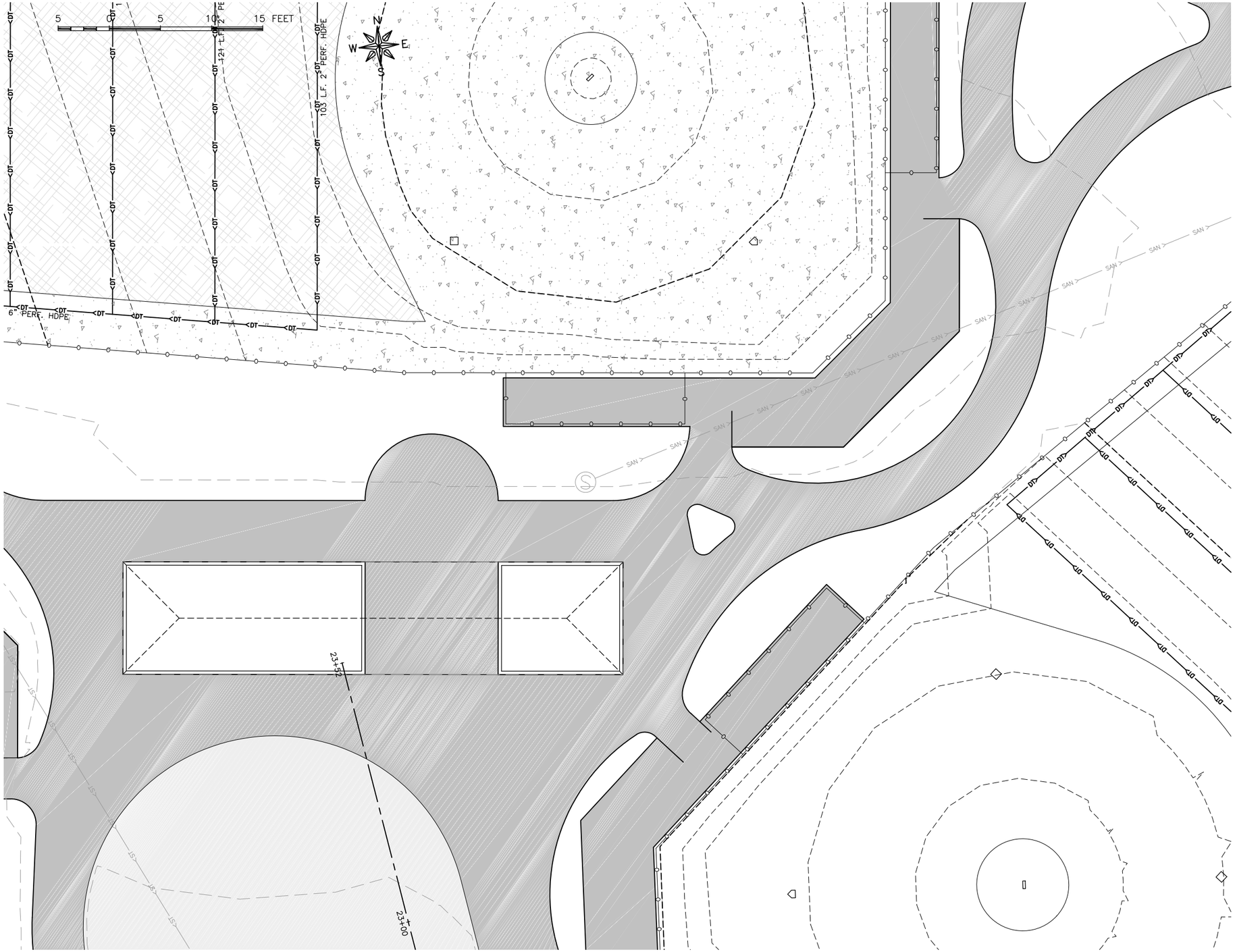
JOB NUMBER:
16-072

SHEET NUMBER:
S.04



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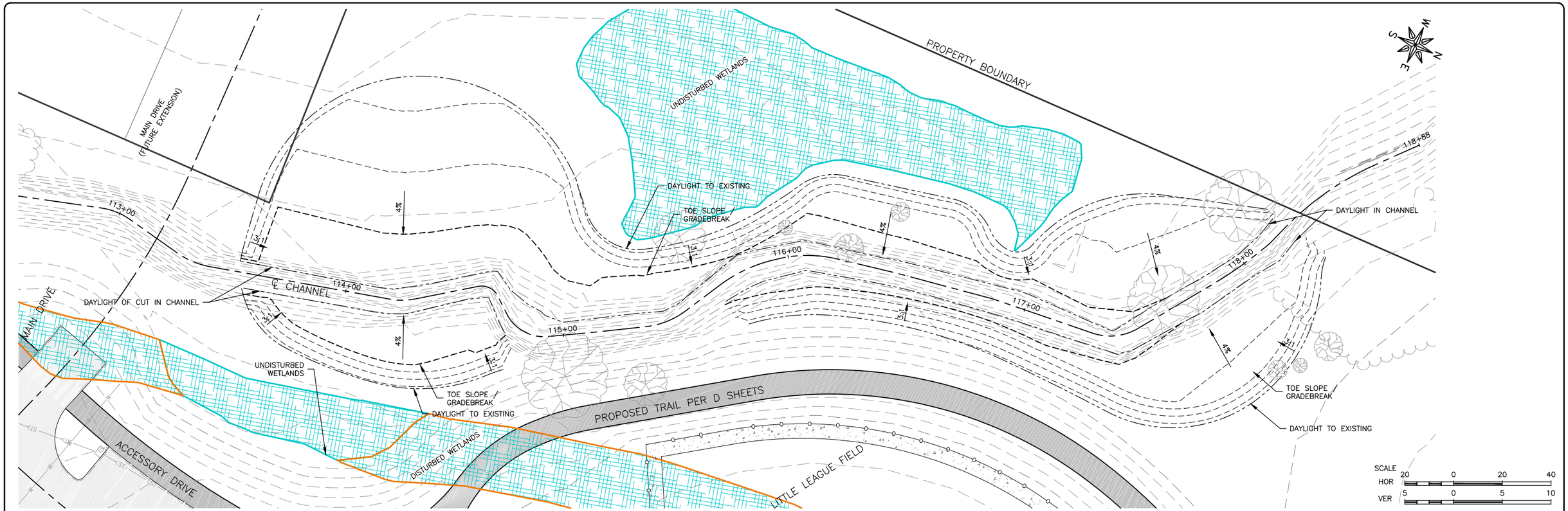
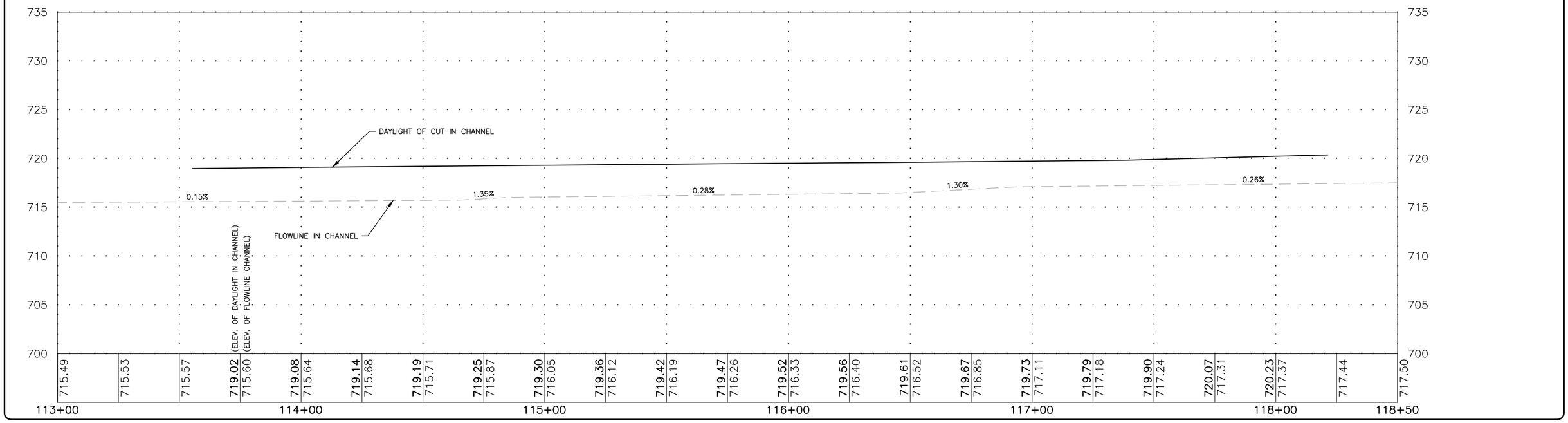
G:\C3D\16\16-072\Plans\16-072 Plans PH2.dwg, S.05

JOB NUMBER:
16-072

SHEET NUMBER:
S.05

PLOT DATE: 5/15/17





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WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

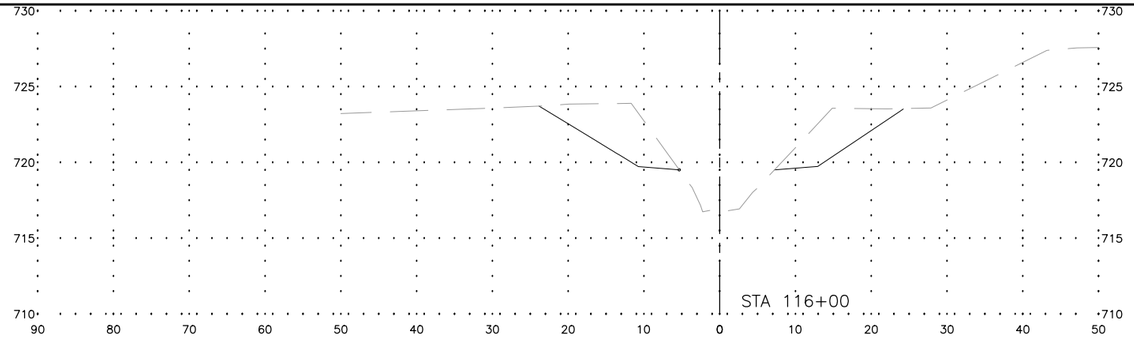
REV. NO.	DESCRIPTION	DATE

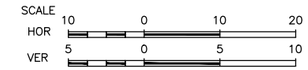
DRAWING:
WETLANDS MITIGATION – GRADING PLAN

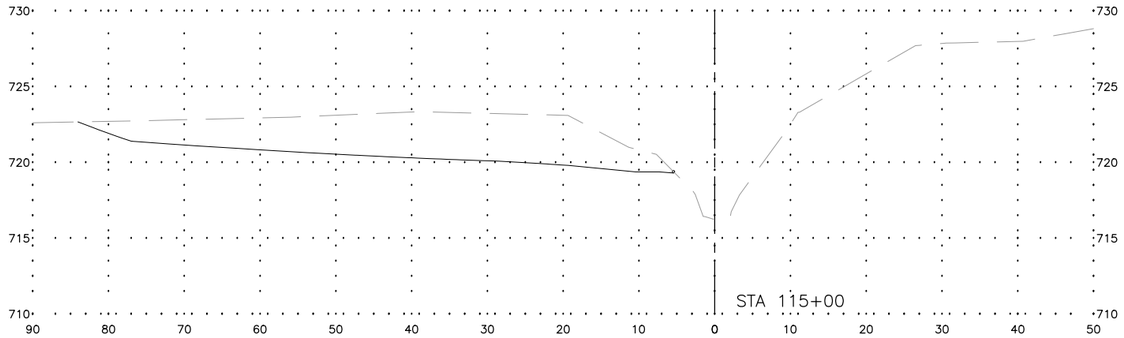
SET TYPE: PRELIMINARY
G:\C3D\16\16-072\Plans\16-072 Plans PH2.dwg, W.01

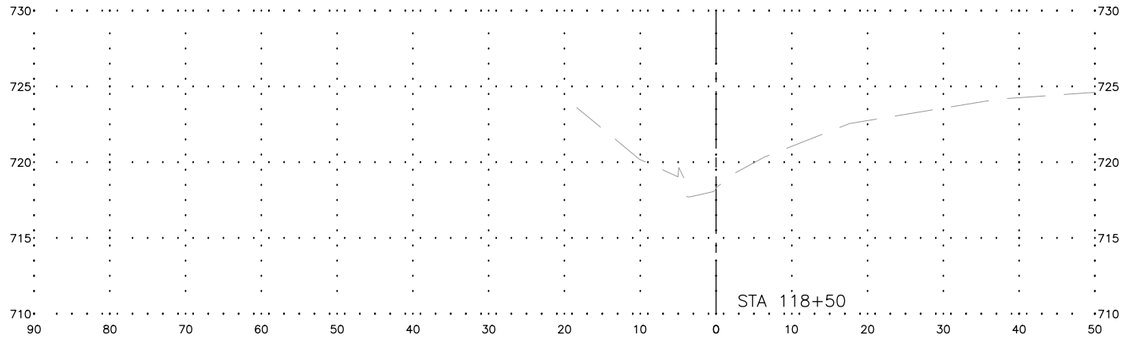
JOB NUMBER: 16-072
SHEET NUMBER: W.01

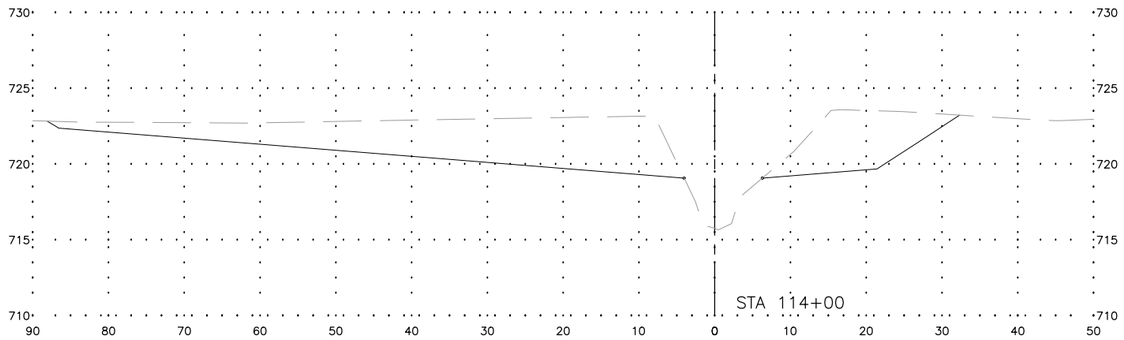
PLOT DATE: 5/15/17

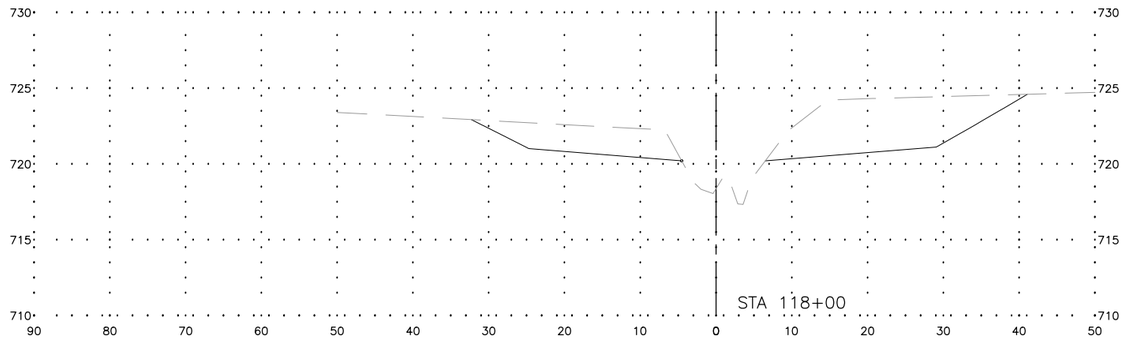


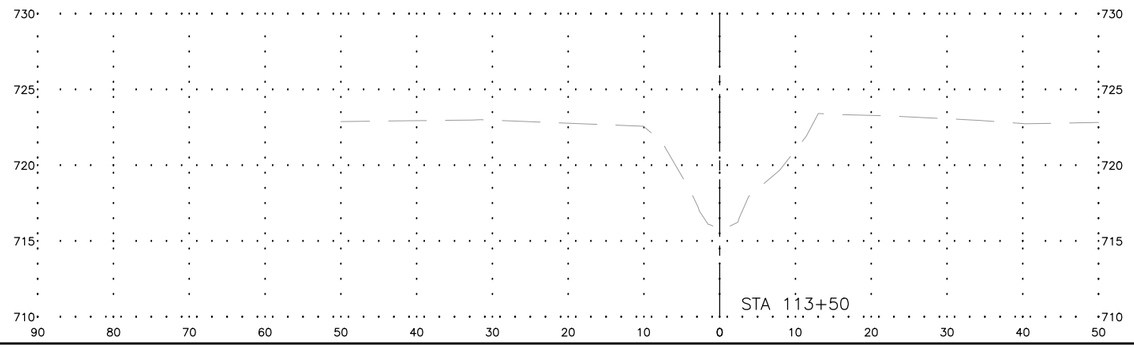


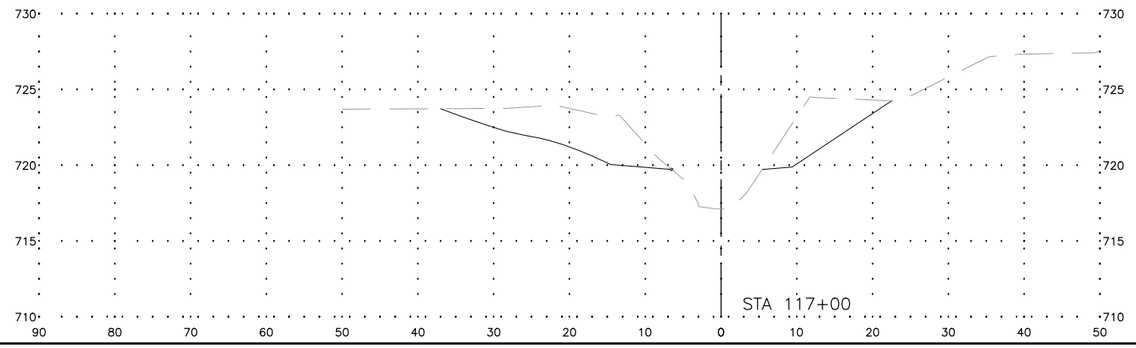












FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL

ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
CITY OF WEST BRANCH
110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
WETLANDS MITIGATION – CROSS SECTIONS

SET TYPE: PRELIMINARY
G:\C3D\16\16-072\Plans\16-072 Plans PH2.dwg, W.02

JOB NUMBER:
16-072

SHEET NUMBER:
W.02

PLOT DATE: 5/15/17

SCOREBOARD

DOUBLE SWING GATE (SEE DETAIL)

SCOREBOARD SEE ELECTRICAL & LIGHTING PLAN

WARNING TRACK SHAKOPEE RED BALL DIAMOND AGGREGATE

6'-2"

199.98'

LITTLE LEAGUE 1

R183.56'

200.3'

SOFTBALL

265'

265'

R246.95'

10'-0"

DOUBLE SWING GATE (SEE DETAIL)

PICKLEBALL COURT

CONCESSIONS BUILDING

PLAYGROUND

CREEK RESTORATION SEE GRADING & LANDSCAPE PLANS

PICKLEBALL ENLARGEMENT SHEET L.10

180'

PLAYGROUND ENLARGEMENT SHEET L.11

SCOREBOARD

R107.57'

180'

16.7'

NORTH

SOUTH

NORTH

SOUTH

MATCH LINE

CONSESSIONS ENLARGEMENT SHEET L.06

BATTING CAGE

LITTLE LEAGUE 2

0+00 1+00 2+00 3+00 4+00 5+00 6+00

ELECTRICAL TRANSFORMER BY UTILITY

N W E S

40 0 40 80 120 FEET

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
WISCONSIN

PLOT DATE: 5/15/17

OWNER/DEVELOPER:
CITY OF WEST BRANCH
110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

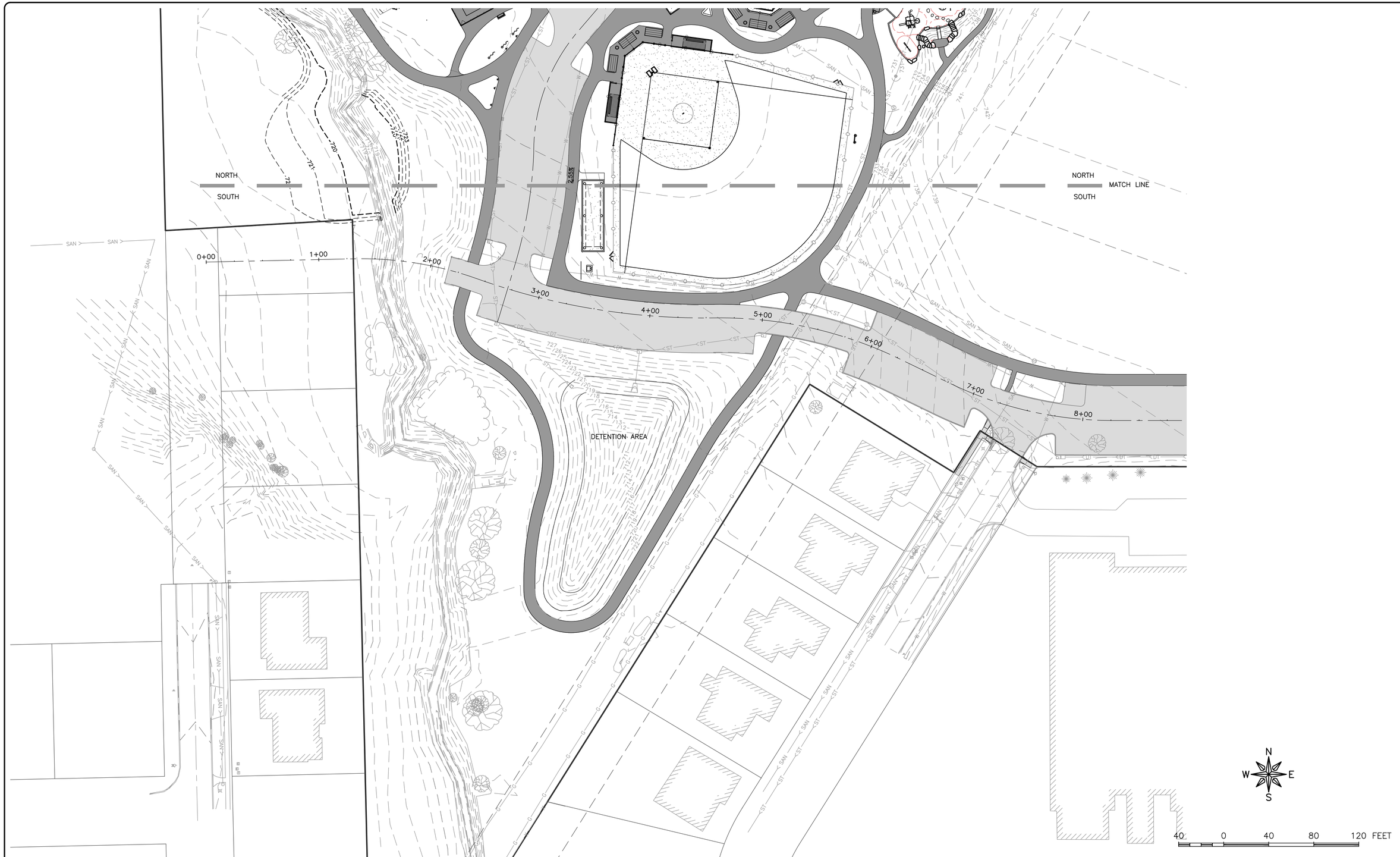
DRAWING: LAYOUT PLAN NORTH

SET TYPE: PRELIMINARY

G:\C30\16\16-072\Landscape\16-072 Landscape 2.dwg, LAYOUT PLAN NORTH

JOB NUMBER: 16-072

SHEET NUMBER: L.01



FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
WISCONSIN

PLOT DATE: 5/15/17

OWNER/DEVELOPER:
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110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
LAYOUT PLAN SOUTH

SET TYPE: PRELIMINARY
G:\C30\16\16-072\Landscape\16-072 Landscape 2.dwg, LAYOUT PLAN SOUTH

JOB NUMBER:
16-072

SHEET NUMBER:
L.02

WARNING TRACK SHAKOPEE RED BALL DIAMOND AGGREGATE

WARNING TRACK SHAKOPEE RED BALL DIAMOND AGGREGATE

NATIVE RIPARIAN SEED

NORTH

SOUTH

NORTH

MATCH LINE

SOUTH

WARNING TRACK SHAKOPEE RED BALL DIAMOND AGGREGATE

0+00 1+00 2+00 3+00 4+00 5+00 6+00

LEGEND

- SHADE TREE
- ORNAMENTAL TREE
- EVERGREEN TREE
- NO MOW FESCUE SEED
- ATHLETIC FIELD SEED
- NATIVE RIPARIAN SEED & PLUG
- NATIVE EMERGENT SEED & PLUG

N W E S

40 0 40 80 120 FEET

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ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
CITY OF WEST BRANCH
110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING: LANDSCAPE PLAN NORTH

SET TYPE: PRELIMINARY

G:\C3D\16\16-072\Landscape\16-072 Landscape 2.dwg, LANDSCAPE PLAN NORTH

JOB NUMBER: 16-072

SHEET NUMBER: L.03

PLOT DATE: 5/15/17

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ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
ILLINOIS
IOWA
WISCONSIN

PLOT DATE: 5/15/17

OWNER/DEVELOPER:
CITY OF WEST BRANCH
110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
LANDSCAPE PLAN SOUTH

SET TYPE: PRELIMINARY
G:\C3D\16\16-072\Landscape\16-072 Landscape 2.dwg, LANDSCAPE PLAN SOUTH

JOB NUMBER:
16-072

SHEET NUMBER:
L.04

LEGEND

- BACKFLOW PREVENTION DEVICE
- ISOLATION VALVE
- CONTROL VALVE
- QUICK COUPLING VALVE
- ROTOR SPRAY HEAD
- IRRIGATION CONTROLLER W/36 STATIONS
- MAINLINE PIPE: CLASS 200 PVC (2 INCH SIZE)
- LATERAL PIPE: CLASS 200 PVC (SIZED AS SHOWN)

A1	INDICATES CONTROLLER AND CONTROLLER STATION NUMBER
48	INDICATES LATERAL DISCHARGE IN GPM
1-1/2"	INDICATES REMOTE CONTROL VALVE SIZE
-	

N W E S

40 0 40 80 120 FEET

IRRIGATION

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ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
WISCONSIN

PLOT DATE: 5/15/17

OWNER/DEVELOPER:
CITY OF WEST BRANCH
110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING: IRRIGATION PLAN

SET TYPE: PRELIMINARY

G:\C30\16\16-072\Landscape\16-072 Landscape 2.dwg, IRRIGATION PLAN

JOB NUMBER: 16-072

SHEET NUMBER: L.05

8.01'
R35'
11.5'
BICYCLE RACK
(SEE DETAIL)
17'
8'
12'
15.12'
R13'
KIOSK
R15'
R35.05'
R4'
R75'
R4'
R80'
R4'
R50'
10'
10'
R37.23'
6.61'
R45'
4.55%
10'
R5'
R79.5'
30' POLE
IOWA FLAG
35' POLE
AMERICAN FLAG
30' POLE
WEST BRANCH FLAG
6'
R5'
R90'
R70'
R203'
N
W
E
S
20 0 20 40 60 FEET

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
WISCONSIN

PLOT DATE: 5/15/17

OWNER/DEVELOPER:
CITY OF WEST BRANCH
110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
CONSESSION STAND AND BALL PARK LAYOUT

SET TYPE: PRELIMINARY
G:\C3D\16\16-072\Landscape\16-072 Landscape 2.dwg, CONSESSION STAND AND BALL PARK LAYOUT

JOB NUMBER:
16-072

SHEET NUMBER:
L.-6

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
CITY OF WEST BRANCH
110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

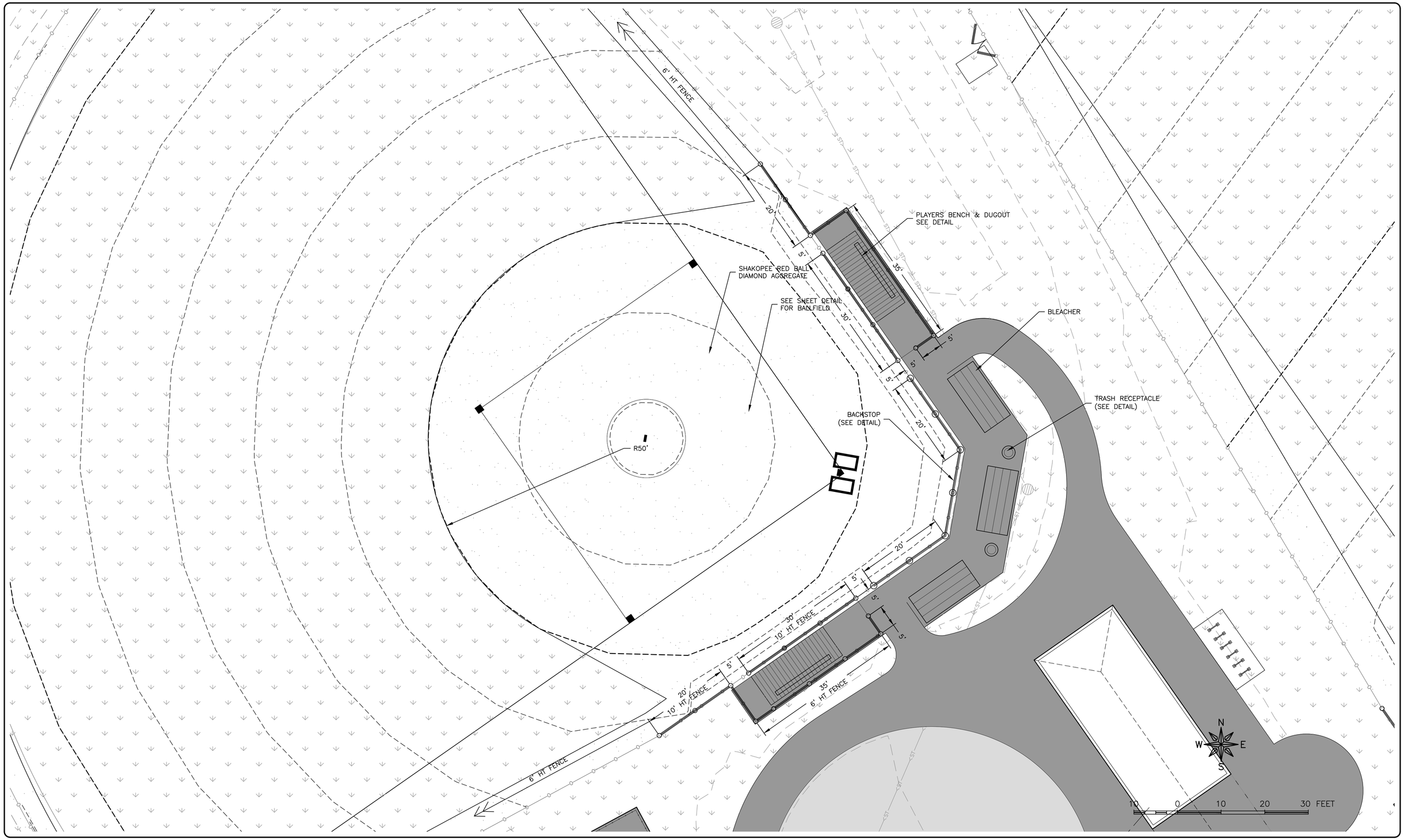
DRAWING:
BALL PARK NORTH ENLARGEMENT

SET TYPE: PRELIMINARY
G:\C30\16\16-072\Landscape\16-072 Landscape 2.dwg, BALL PARK NORTH ENLARGEMENT

JOB NUMBER:
16-072

SHEET NUMBER:
L.07

PLOT DATE: 5/15/17



FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
WISCONSIN

PLOT DATE: 5/15/17

OWNER/DEVELOPER:
CITY OF WEST BRANCH
110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
BALL PARK WEST ENLARGEMENT

SET TYPE: PRELIMINARY
G:\C3D\16\16-072\Landscape\16-072 Landscape 2.dwg, BALL PARK WEST ENLARGEMENT

JOB NUMBER:
16-072

SHEET NUMBER:
L.08

TRASH RECEPTACLE (SEE DETAIL)

BLEACHER

5'

35'
6' HT FENCE

5'

20'

5'

30'
10' HT FENCE

5'

20'
10' HT FENCE

6' HT FENCE

BACKSTOP (SEE DETAIL)

20'

5'

5'

5'

SEE SHEET DETAIL FOR BALLFIELD

SHAKOPEE RED BALL DIAMOND AGGREGATE

35'

30'

5'

20'

R50'

PLAYERS BENCH & DUGOUT SEE DETAIL

6' HT FENCE

2.65%

N
W E
S

20 0 20 40 60 FEET

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
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110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

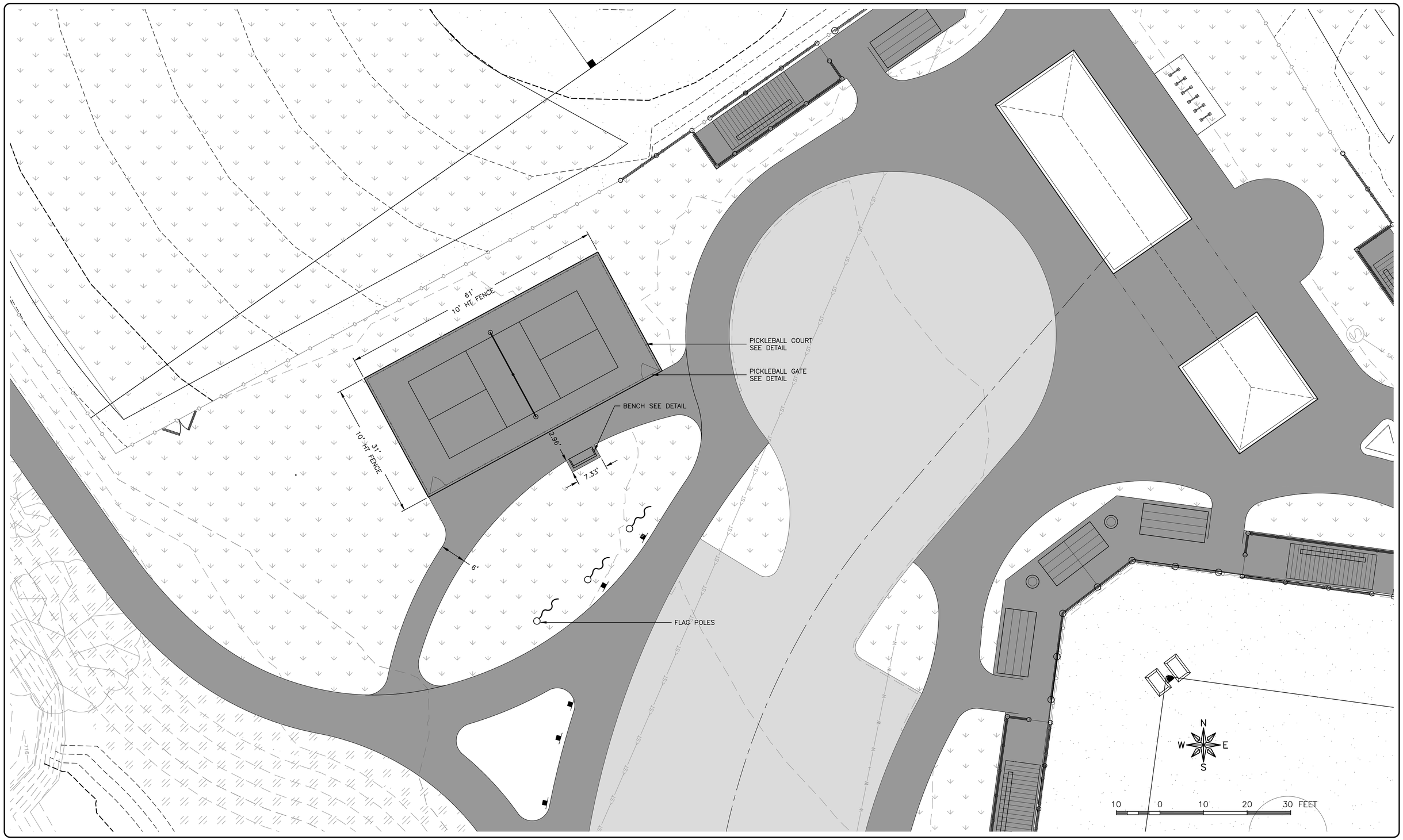
REV. NO.	DESCRIPTION	DATE

DRAWING:
BALL PARK SOUTH ENLARGEMENT

SET TYPE: PRELIMINARY
G:\C30\16\16-072\Landscape\16-072 Landscape 2.dwg, BALL PARK SOUTH ENLARGEMENT

JOB NUMBER:
16-072

SHEET NUMBER:
L.09



FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
WISCONSIN

PLOT DATE: 5/15/17

OWNER/DEVELOPER:
CITY OF WEST BRANCH
110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

DRAWING:
PICKLEBALL ENLARGEMENT

SET TYPE: PRELIMINARY
G:\C30\16\16-072\Landscape\16-072 Landscape 2.dwg, PICKLEBALL ENLARGEMENT

JOB NUMBER:
16-072

SHEET NUMBER:
L.10

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184–003525

ILLINOIS
IOWA
WISCONSIN

PLOT DATE: 5/15/17

OWNER/DEVELOPER:
CITY OF WEST BRANCH
110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

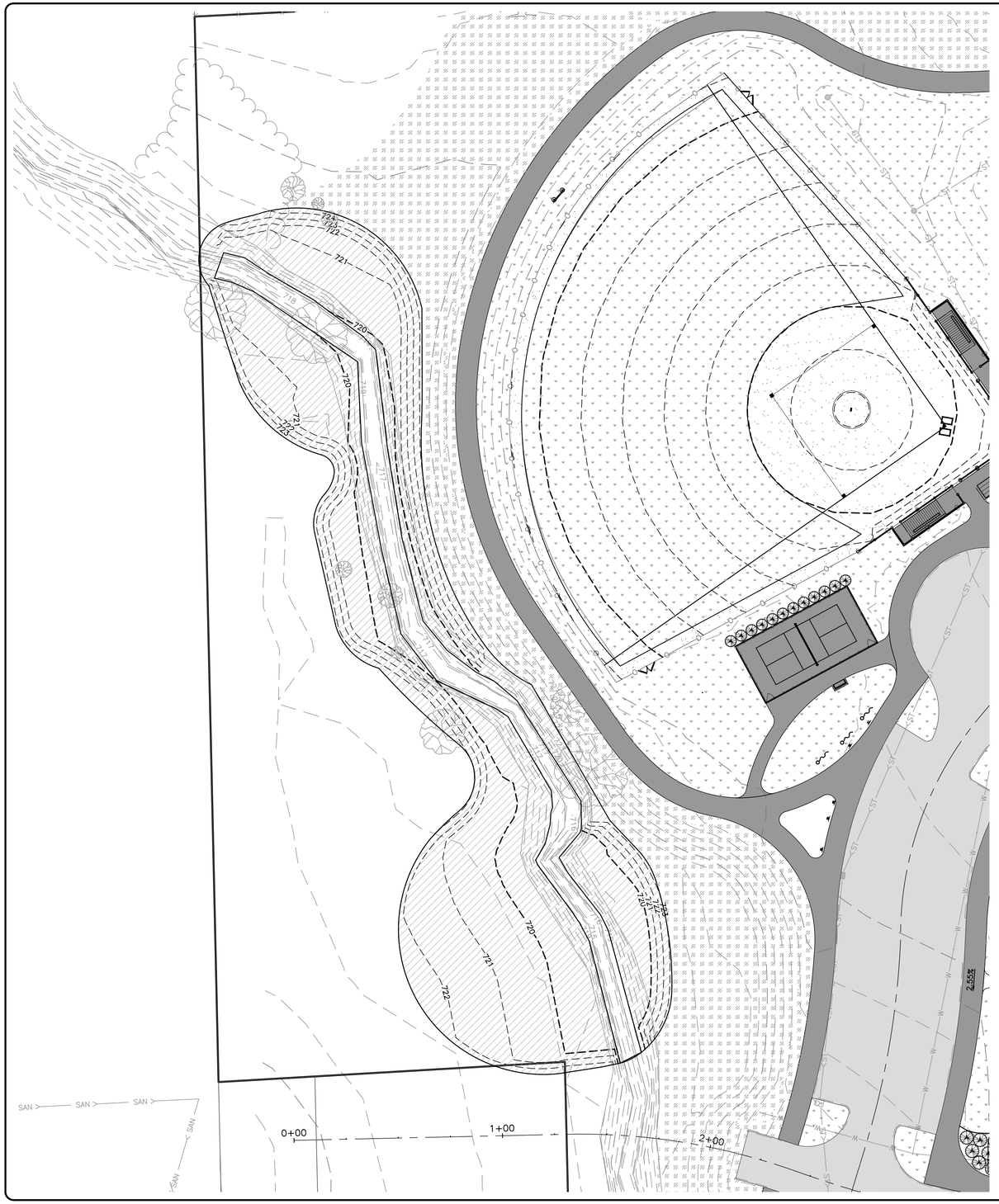
REV. NO.	DESCRIPTION	DATE

DRAWING:
PLAY GROUND ENLARGEMENT

SET TYPE: PRELIMINARY
G:\C30\16\16-072\Landscape\16-072 Landscape 2.dwg, PLAY GROUND ENLARGEMENT

JOB NUMBER:
16–072

SHEET NUMBER:
L.11



LEGEND

- NO MOW FESCUE SEED
- ATHLETIC FIELD SEED
- NATIVE RIPARIAN SEED & PLUG
- NATIVE EMERGENT SEED & PLUG

N
W E
S

30 0 30 60 90 FEET

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
WISCONSIN

OWNER/DEVELOPER:
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110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

REV. NO.	DESCRIPTION	DATE

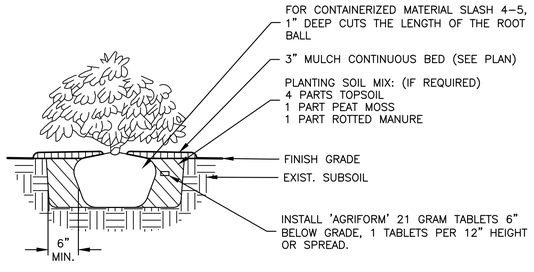
DRAWING:
STREAM BANK RESTORATION

SET TYPE: PRELIMINARY
G:\C30\16\16-072\Landscape\16-072 Landscape 2.dwg, STREAM BANK RESTORATION

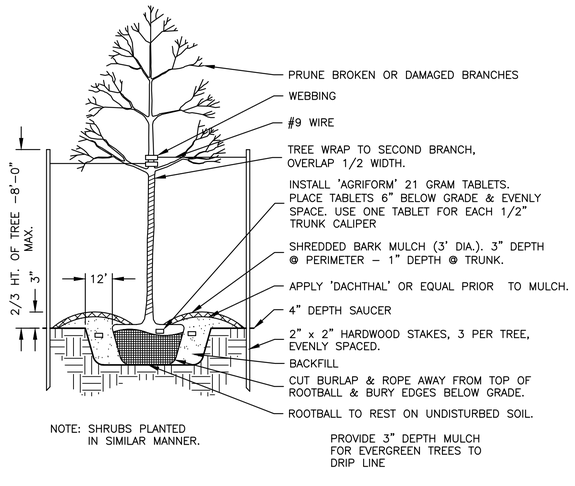
JOB NUMBER:
16-072

SHEET NUMBER:
L.12

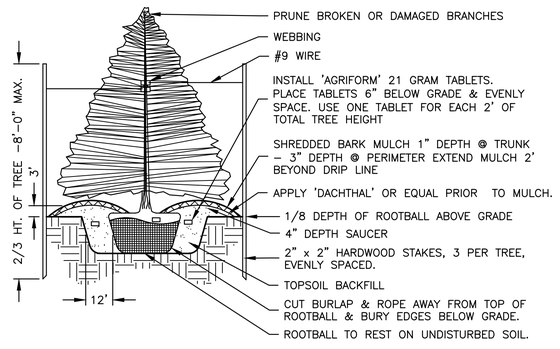
PLOT DATE: 5/15/17



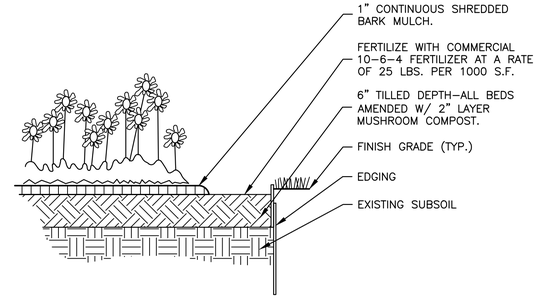
SHRUB PLANTING DETAIL
N.T.S.



PLANTING DETAIL
N.T.S.



EVERGREEN TREE PLANTING DETAIL
N.T.S.



PERENNIAL/GROUNDCOVER PLANTING
N.T.S.

PRELIMINARY

DETAILS

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184–003525
ILLINOIS
IOWA
WISCONSIN

PLOT DATE: 5/15/17

OWNER/DEVELOPER:
CITY OF WEST BRANCH
110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS – PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

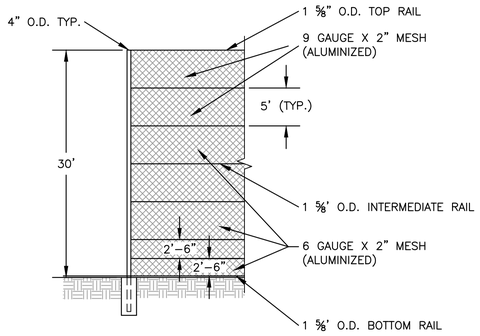
REV. NO.	DESCRIPTION	DATE

DRAWING:
PLANT LIST AND DETAILS

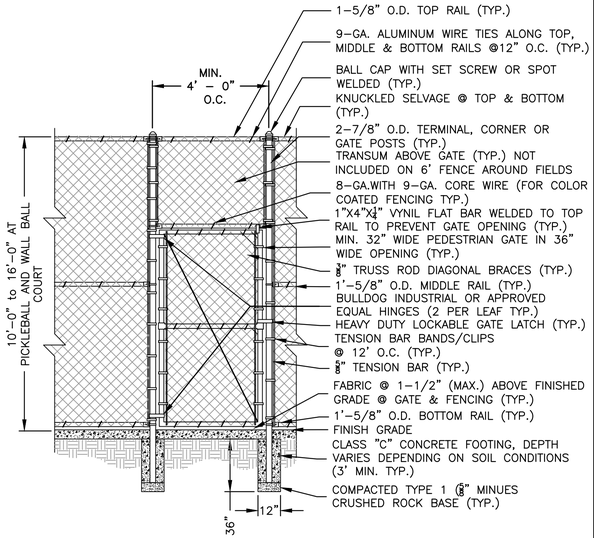
SET TYPE: PRELIMINARY
G:\C3D\16\16-072\Landscape\16-072 Landscape 2.dwg, PLANT LIST AND DETAILS

JOB NUMBER:
16–072

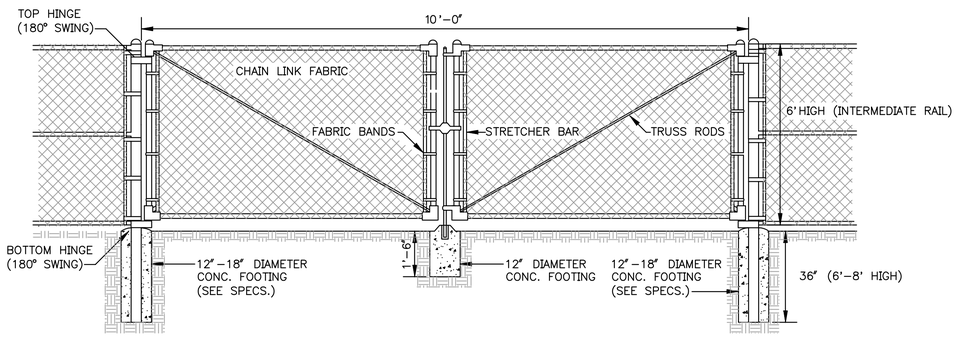
SHEET NUMBER:
L.13



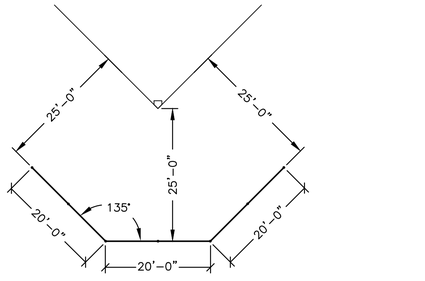
BACKSTOP DETAIL
N.T.S.



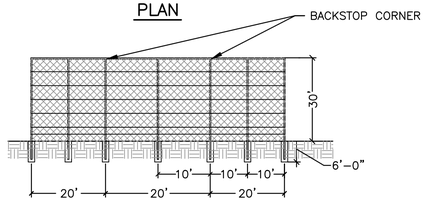
GATE DETAIL
N.T.S.



TYPICAL DOUBLE VEHICLE GATE
N.T.S.

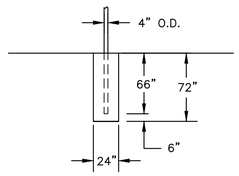


PLAN



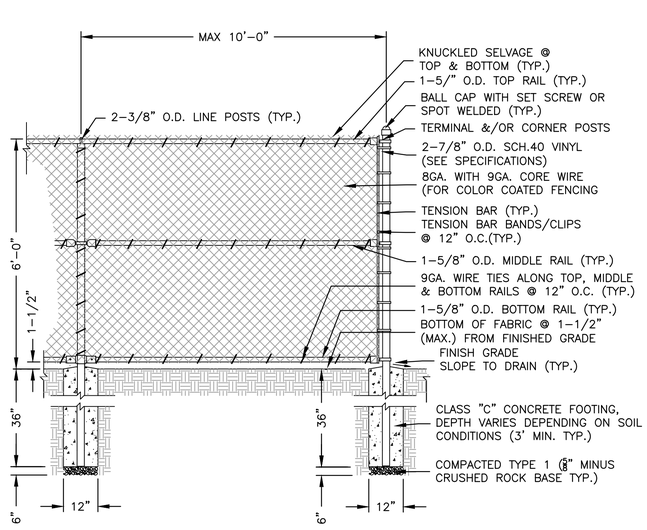
ELEVATION

BACKSTOP
N.T.S.



FOOTINGS SHALL BE INCLUDED IN UNIT PRICE FOR BACKSTOP.

BACKSTOP CONCRETE FOUNDATION DETAIL
N.T.S.



BALL PARK CHAIN LINK FENCE DETAIL
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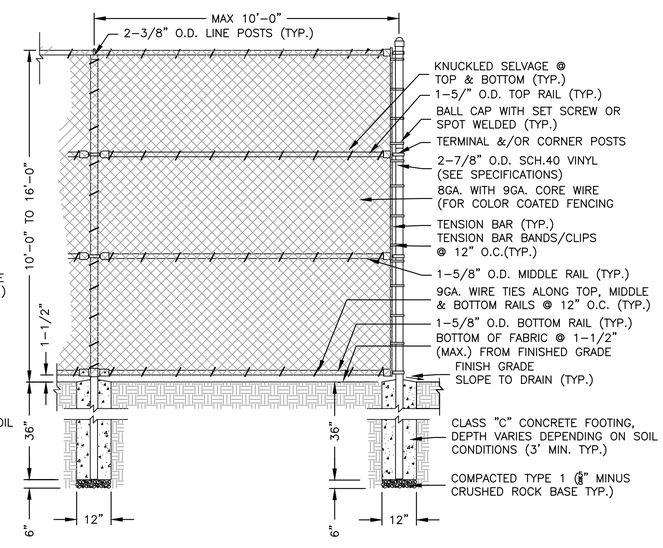


PICKLEBALL/HANDBALL CHAIN LINK FENCE DETAIL
N.T.S.

PRELIMINARY

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
ILLINOIS
IOWA
WISCONSIN

PLOT DATE: 5/15/17

OWNER/DEVELOPER:
CITY OF WEST BRANCH
110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS - PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS

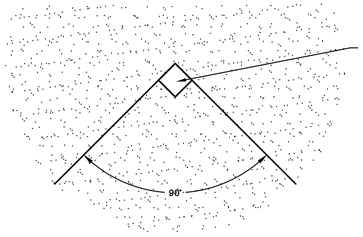
REV. NO.	DESCRIPTION	DATE

DRAWING: DETAILS

SET TYPE: PRELIMINARY
G:\C3D\16\16-072\Landscape\16-072 Landscape 2.dwg, DETAILS

JOB NUMBER: 16-072

SHEET NUMBER: L.14



2nd BASE
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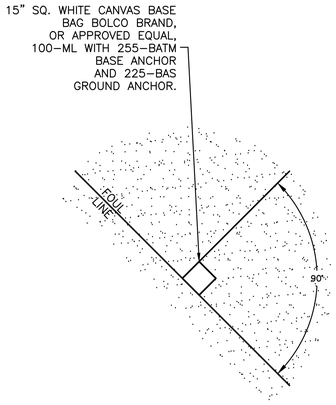

3rd BASE
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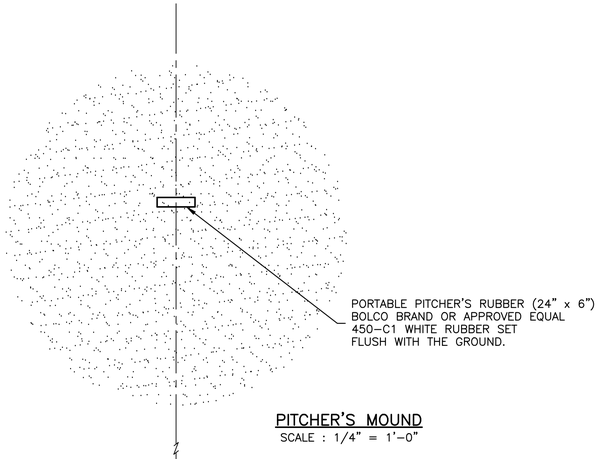

PITCHER'S MOUND
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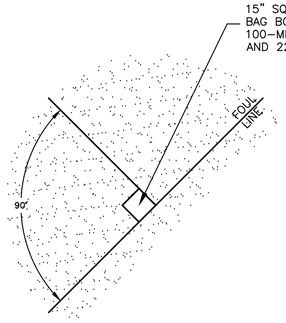

1st BASE
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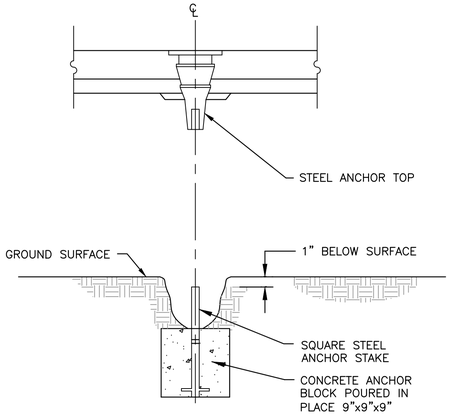
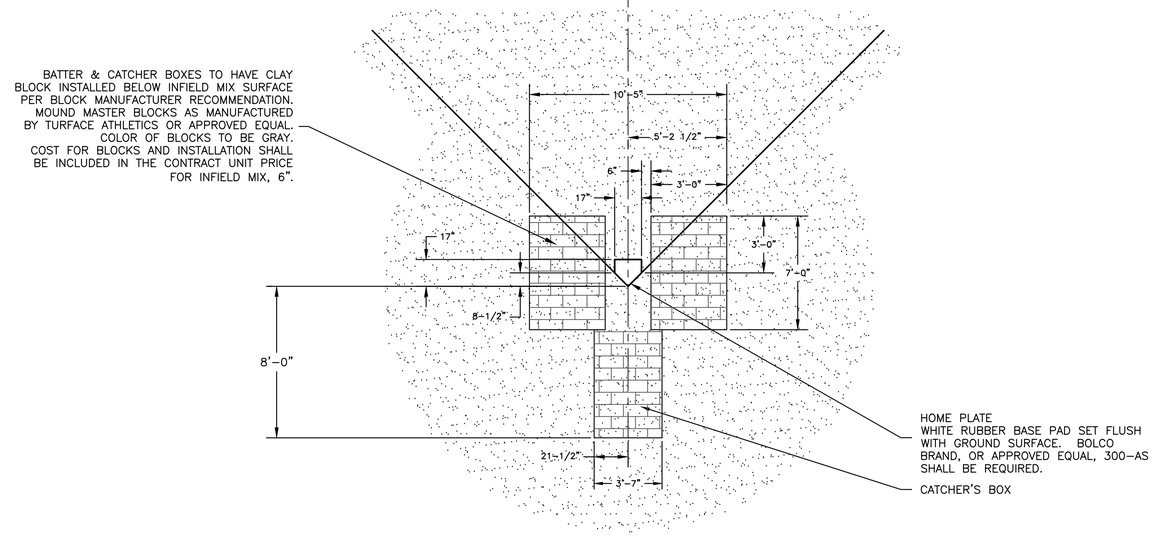


BASE ANCHOR DETAIL
DUGOUT N.T.S.



HOME PLATE
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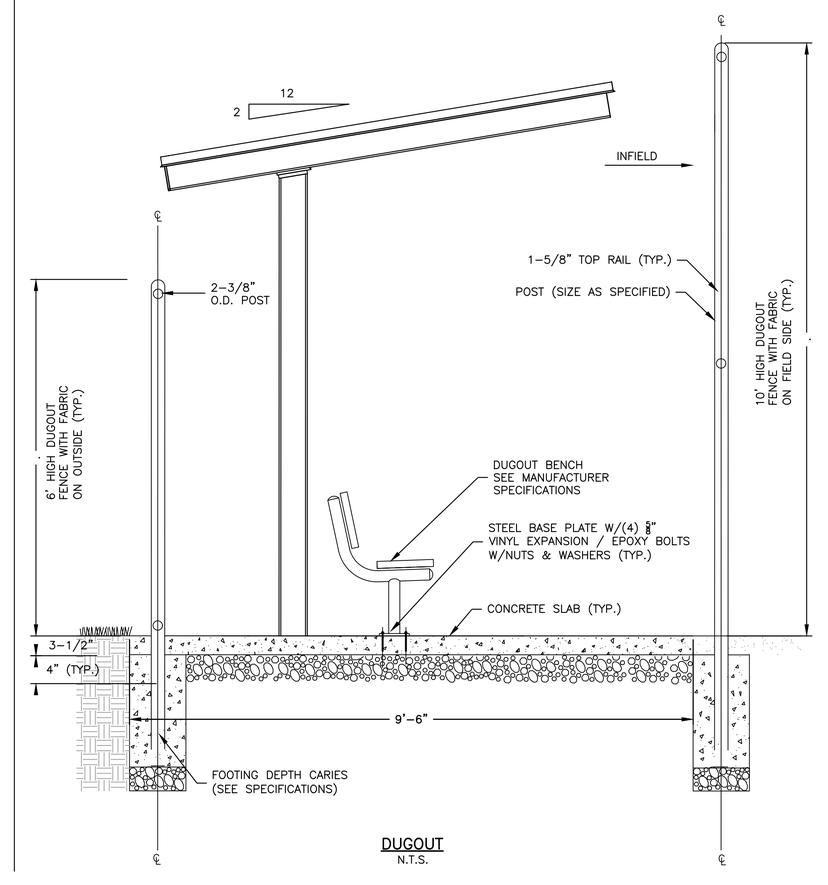

DUGOUT
N.T.S.

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ILLINOIS DESIGN FIRM NO. 184-003525

ILLINOIS
IOWA
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WEST BRANCH, IOWA 52358

PROJECT AND LOCATION:
CUBBY PARK IMPROVEMENTS - PHASE 2
WEST BRANCH, IOWA

DRAWN BY: AJB
APPROVED BY: NPK
DATE: DATE
SCALE: AS NOTED

REVISIONS		
REV. NO.	DESCRIPTION	DATE

DRAWING: DETAILS

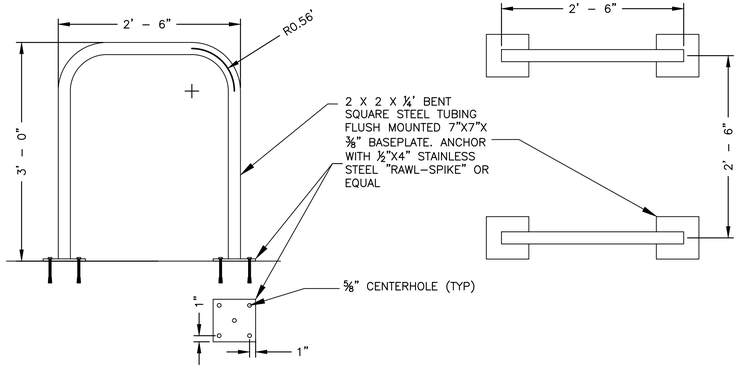
SET TYPE: PRELIMINARY

G:\C3D\16\16-072\Landscape\16-072 Landscape 2.dwg, L.14 DETAILS

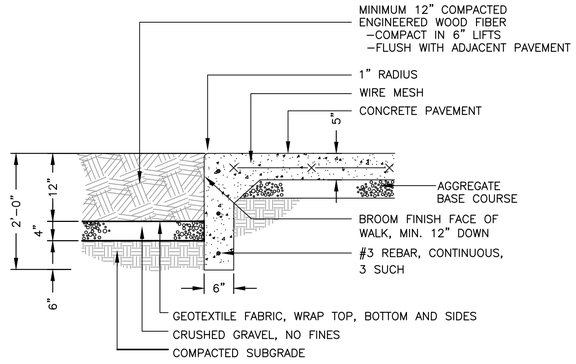
JOB NUMBER: 16-072

SHEET NUMBER: L.15

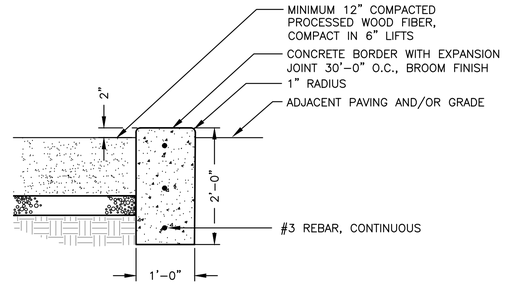
PLOT DATE: 5/15/17



BICYCLE RACK DETAIL
N.T.S.



CONCRETE PLAYGROUND EDGE AND SIDEWALK
N.T.S.



CONCRETE BORDER
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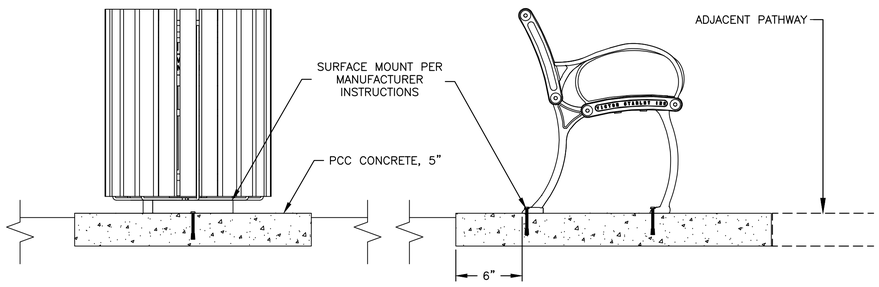
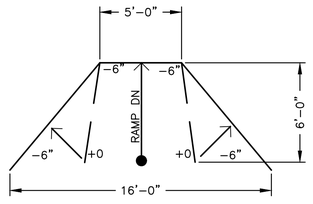
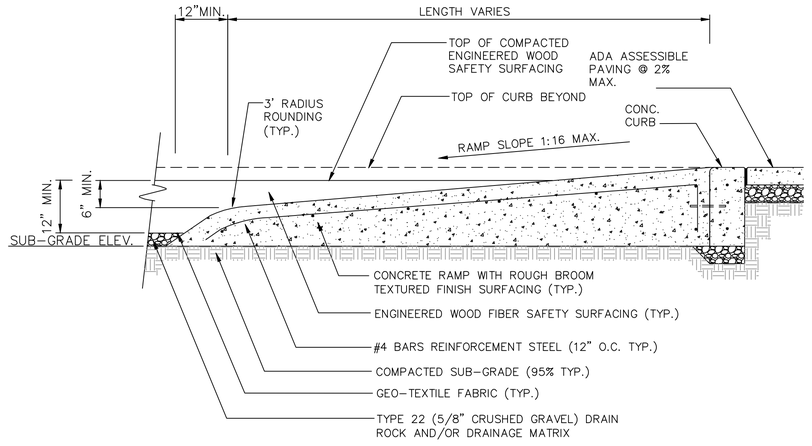


TRASH RECEPTACLE/BENCH MOUNTING PADS
N.T.S.



PLAYGROUND RAMP
N.T.S.



ACCESSIBLE TRANSITION AREA
N.T.S.

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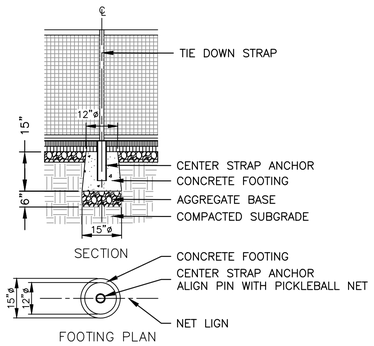
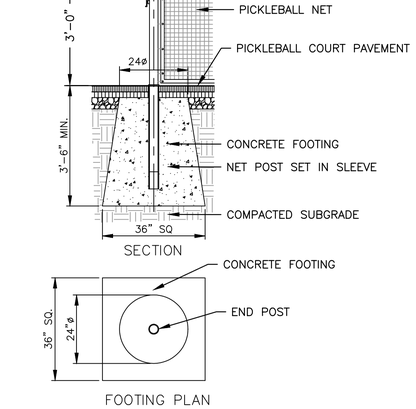
JOB NUMBER: 16–072
SHEET NUMBER: L.16

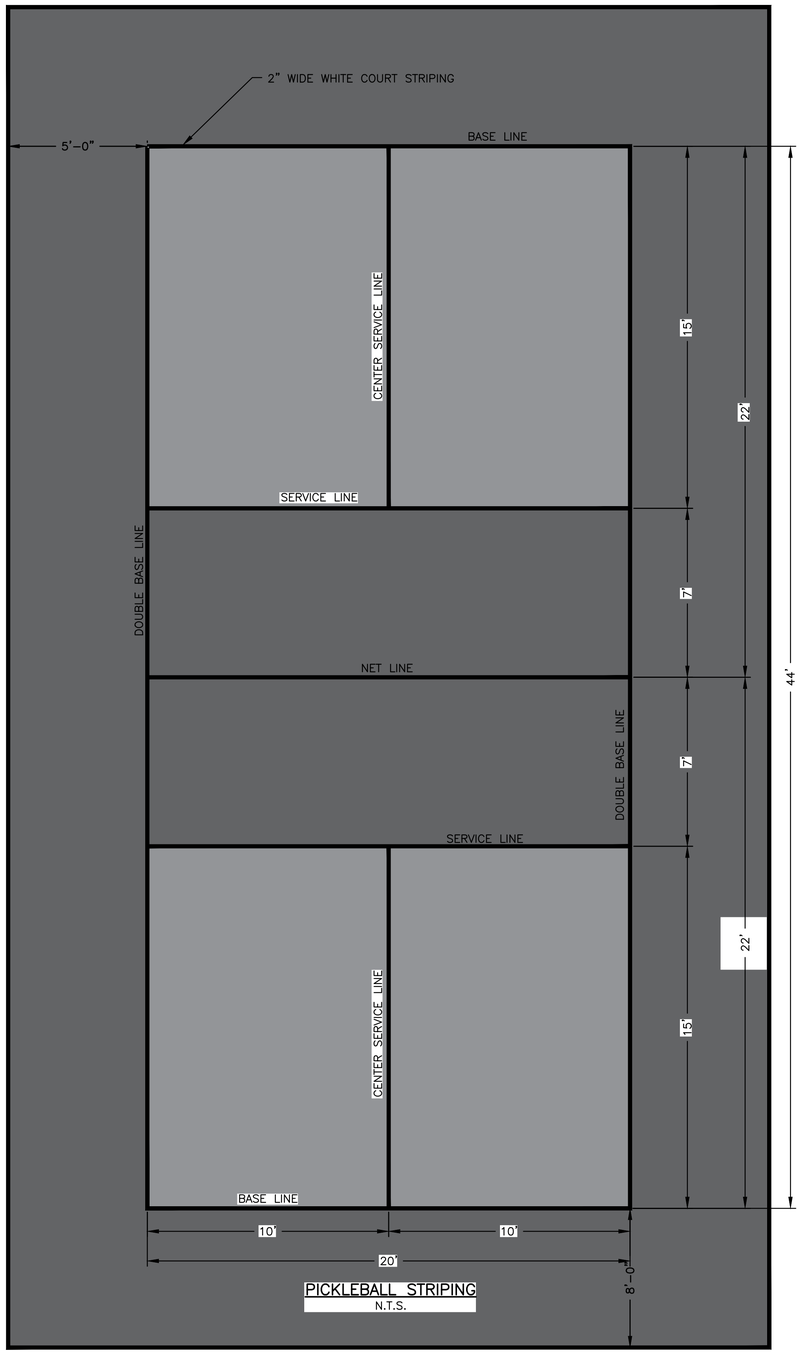
PLOT DATE: 5/15/17



NET CENTER POST INSTALLATION
N.T.S.



NET END POST INSTALLATION
N.T.S.



PICKLEBALL STRIPING
N.T.S.

LEGEND

- GREEN COURT COLOR
- BLUE COURT COLOR

DETAIL - 5

PLOT DATE: 5/15/17

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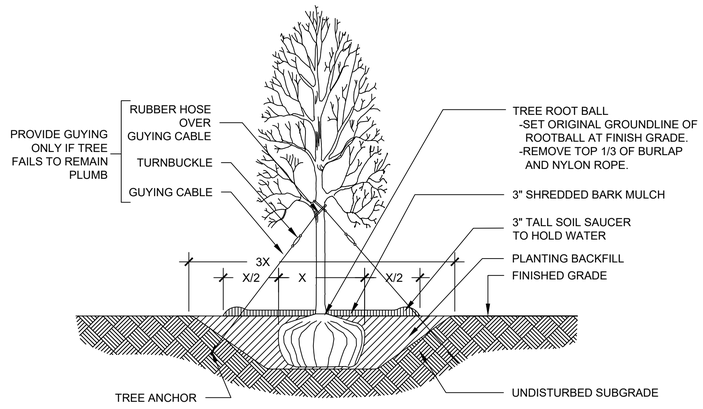
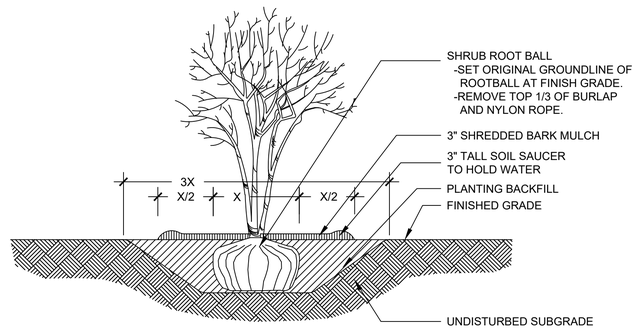
JOB NUMBER: 16-072

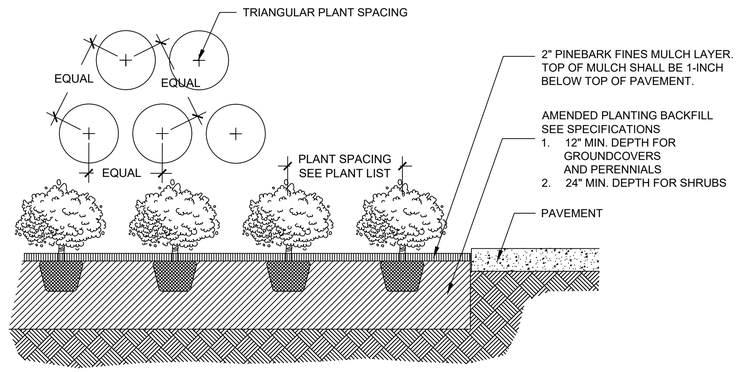
SHEET NUMBER: L.17



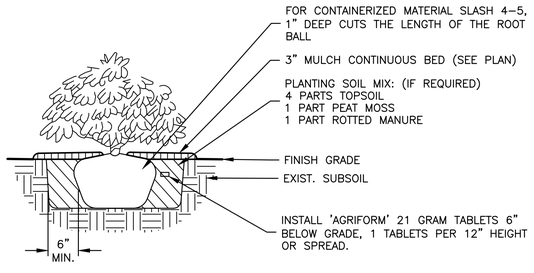
1 SHADE TREE PLANTING DETAIL
NTS



2 SHRUB AND ORNAMENTAL TREE PLANTING DETAIL
NTS

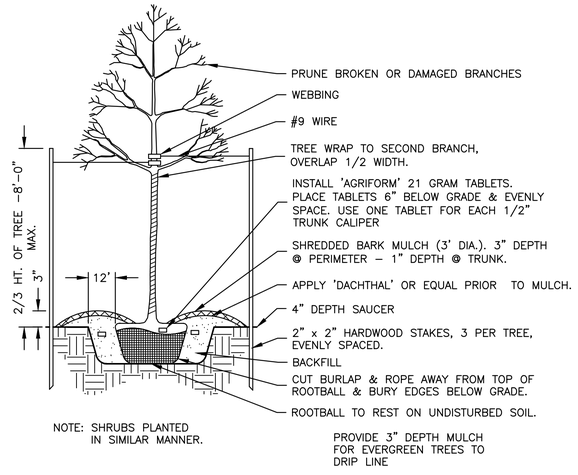


3 GROUNDCOVER / PERENNIAL PLANTING DETAIL
NTS



SHRUB PLANTING DETAIL
N.T.S.

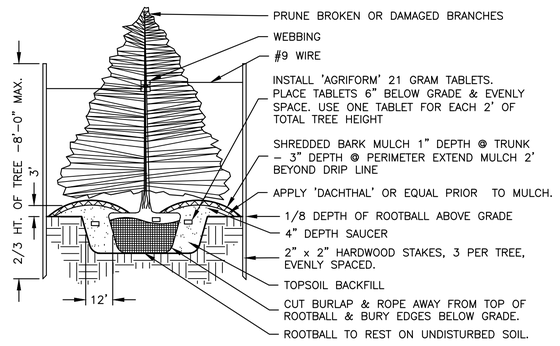
631



PLANTING DETAIL
N.T.S.

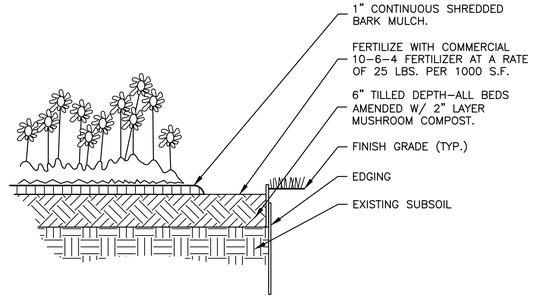
2016 629

2016 630



EVERGREEN TREE PLANTING DETAIL
N.T.S.

2016 632



PERENNIAL/GROUNDCOVER PLANTING
N.T.S.

2016

FEHR GRAHAM
ENGINEERING & ENVIRONMENTAL
ILLINOIS DESIGN FIRM NO. 184-003525
ILLINOIS
IOWA
WISCONSIN

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110 NORTH POPLAR STREET
WEST BRANCH, IOWA 52358

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DRAWN BY: AJB
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DRAWING:
DETAILS

SET TYPE: PRELIMINARY
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JOB NUMBER:
16-072

SHEET NUMBER:
L.18

In larger communities where the traffic volumes are heavy and land use density is greater, all of the above elements may be factors to consider. However, in smaller communities with lower traffic volumes and less dense developments, only a few may be important. The application of complete streets principles is most effective when neighborhoods are compact, complete, and connected to encourage walking and biking comfortable distances to everyday destinations such as work, schools, and retail shops. Past land use practices of large tracts for single use development are less effective in encouraging short walking or biking trips.

Complete streets are designed to respect the context of their location. For example, downtown locations may involve greater emphasis on pedestrians, bicyclists, and transit users than single family neighborhoods. Additionally context includes social and demographic factors that influences who is likely to use the street. For example, low income families and those without their own vehicle have the need for an interconnected pedestrian, bicycle, and transit network serving important destinations in the community.

The U.S. DOT adopted a policy statement regarding bicycle and pedestrian accommodations in March of 2010. It states:

> "The U.S. DOT policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. Every transportation agency has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and biking into their transportation systems. Because of the numerous individual and community benefits that walking and bicycling provide – including health, safety, environmental, transportation, and quality of life – transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes."

In addition to the U.S. DOT policy, members from the U.S. House of Representatives and the U.S. Senate have introduced a bill entitled "Safe Streets Act of 2014" that calls for all state DOTs and TMAs/MPOs to adopt a complete streets policy for all federally funded projects.

B. Design Guidance

There are a myriad of ways to address the development of complete streets in terms of a planning function, but there are not specific complete streets design elements identified for engineers to use to develop construction or reconstruction projects. The concept of complete streets goes beyond safety, tying in issues of health, livability, economic development, sustainability, and aesthetics.

Applying flexibility in street design to address the complete streets philosophy requires an understanding of each street's functional basis. It also requires understanding how adding, altering, or eliminating any design element will impact different users. For instance, large radii may make it easier for trucks to navigate the street, but they create wider streets for pedestrians to cross. Designers of complete streets should understand the relationship between each criterion and its impact on the safety and mobility of all users.

Various manuals are available to provide design guidance including:

- AASHTO's A Policy on Geometric Design of Highways and Streets (the Green Book)
- The Manual on Uniform Traffic Control Devices (MUTCD)
- The Highway Capacity Manual (HCM)
- AASHTO Guide for the Development of Bicycle Facilities
- ITE Traffic Engineering Manual
- NFPA Fire Code
- Local design ordinances
- The Access Board's PROWAG

Some elements within these manuals are specific standards and some are guidelines with ranges of acceptable values. The MUTCD has been adopted as law; therefore the standards within it need to be met. In addition, there may be different standards for facilities that are under the Iowa DOT's jurisdiction than those for local control. If federal or state funding is being used to assist in a project's financing, the standards may be different yet. Local jurisdictions utilize the above manuals for design as a means of protection from lawsuits. Thus from a liability standpoint, it is very important that the design guidance meet the standards or fall within the range of acceptable guidelines provided by the above manuals.

As always, functional classification, traffic volumes, and level of service are factors to consider in any street design, and may be the highest priority for certain facilities. Through stakeholder input, it is important to identify the core issues, develop a spectrum of alternatives, and reach a design decision considering the needs of all of the users. The project development process may determine vehicular level of service is not the critical element and improved service for the other travel modes for pedestrians, bicyclists, and transit users is equal or more important.

C. Design Elements

If a complete streets design is contemplated, many elements must be determined during the design process. Traditionally designers have focused on those related to motor vehicles. With a complete streets design, other elements are also addressed. Each of those elements will be discussed and design guidance presented.

1. **Land Use:** The type of adjacent land use provides insight into several factors. For instance, in industrial areas, the expectation is that truck volumes will be higher. Also in commercial/retail areas, there is an expectation that pedestrians, transit, and bicyclists will have a greater impact. In residential land use areas, the street and right-of-way should accommodate pedestrians of all ages and abilities, and shared use of the street by motorists and bicyclists should be expected.

   Land use will influence speed, curb radii, lane width, on-street parking, transit stops, sidewalks, and bicycle facilities.

2. **Functional Classification:** Most jurisdictions classify their streets as a means of identifying how they serve traffic. Streets are generally classified as arterial, collector, or local facilities. Complete streets projects must take into consideration each street classification because it helps determine how the street and network needs to be treated to handle traffic volumes and other conflicts that may arise if design changes are made.

   Street classifications and the functions of each type are explained in detail in Section 5B-1. It is important to note that all jurisdictions, regardless of size have at least one street in each category. That means that in a larger community an arterial street may carry 20,000 vehicles per day, but in a smaller city the volume on their arterial street might be 2,000 vehicles per day. Similar differences exist in the collector classifications. Generally arterial streets are designated because their primary purpose is to move traffic. Collectors serve the traffic mobility function, but also provide access to adjacent property. Local streets are primarily there to serve adjacent property and should not have through traffic. Designs appropriate for low density residential areas are not likely to fit in the downtown commercial areas due to the likelihood of more pedestrians, bicyclists, trucks, and buses.

3. **Speed:** Because of the differences from community to community in functional classifications, a better criteria to use for design is speed. There are two types of speed to consider in design. The first is operating speed and the other is design speed. Operating speed is typically the posted speed limit and the design speed is often set at 5 miles per hour greater as a factor of safety. It is

also permissible to set the design speed and the posted speed the same. The design speed determines various geometric requirements for safe operations at that speed. These include stopping sight distance, passing sight distance, intersection sight distance, and horizontal and vertical curve elements. These standards are from the AASHTO Green Book and are outlined in Tables 5C-1.01 and 5C-1.02 and for liability reasons should be met at all times, especially for new streets. If it is not possible for any design element to meet the geometric standards on existing streets, warning signs and other safety treatments must be used.

It has been past practice to set the design speed at the highest level that will meet the safety and mobility needs of motor vehicles using the street. One of the principles of complete streets provides for slowing vehicles down to improve safety for all users, especially pedestrians and bicyclists. In general, the maximum speed chosen for design should reflect the network needs and the adjacent land use. The speed limit should not be artificially set low to accomplish complete streets objectives if the roadway environment does not create the driver expectation that they should slow down.

The maximum speed for arterial streets should be 45 miles per hour (mph), but only in rural sections or situations where access control is established and free flowing traffic is the normal situation. A maximum of 35 mph is more typical for most arterial streets in urban developed areas.

Collector streets serve both a mobility and property access function and thus the maximum speed is generally 30 mph. In some cases, 35 mph could be used but only when property access is very limited.

Local streets should be designed at 25 mph since their primary function is for property access.

4. **Design Vehicle:** The selection of the design vehicle is an important element in complete streets design. Lane width and curb radii are directly influenced by the design vehicle. It is not always practical to select the largest vehicle that may occasionally use a street as the design vehicle. In contrast, selection of a smaller vehicle if a street is regularly used by larger vehicles can invite serious operational and safety problems for all types of users.

   When selecting a design vehicle, the designer should consider the largest vehicle that will frequently use the street and must be accommodated without encroaching into opposing traffic lanes during turns. It is generally acceptable to have encroachment during turns into multiple same-direction lanes on the receiving street but not opposing lanes. The choice of a design vehicle is particularly important in intersection design where pedestrians, bicyclists, and vehicles routinely share the same space.

   All street designs must meet the minimum standards for fire departments and other emergency vehicle access and must consider the needs of garbage trucks and street cleaning equipment.

5. **Lane Width:** The AASHTO Green Book provides for lane widths from 9 to 12 feet wide. Narrower lanes force drivers to operate their vehicles closer to each other than they would normally desire. The drivers then slow down and potentially stagger themselves so they are not as close. The actual lane widths for any given street are subject to professional engineering judgment as well as applicable design standards and design criteria. The width of traffic lanes sends a specific message about the type of vehicles expected on the street, as well as indicating how fast drivers should travel. With painted lane lines being 4 to 6 inches wide, the actual "feel" to the driver will be about 1 foot narrower than the design lane width. Wider lanes are generally expected on arterial and collector streets due to truck traffic and higher operating speeds. Snow plowing and removal practices must also be considered as lane width decisions are being made,

especially for the curb lane. Narrower curb lane widths may necessitate different handling of snow because no space is available to plow the snow and it may require loading and removing on a more frequent basis.

It is preferred that arterial streets with 3 to 5% trucks or buses or operating speeds of 35 mph or greater have lanes that are 12 feet wide. That is especially important on the outside lane of multi-lane facilities. It is acceptable to have 11 foot wide lanes on arterial streets when speeds are 30 mph or less, but the entire street context, such as the presence of on-street parking, bike lanes, buffer areas, turn lanes, and volume of trucks and buses, needs to be considered before lane widths are chosen.

Collector streets can have 11 foot wide lanes if the number of trucks and buses is low. Collector street speeds should not exceed 35 mph.

Local commercial and industrial streets should be no narrower than 11 feet due to the larger volume of trucks expected with that land use. Local streets can have lane widths down to 10 foot wide in residential areas. For low volume local residential streets, two free flowing lanes are generally not required. This creates a yield situation when two vehicles meet.

The designer should recognize that there is an impact to the capacity of a street as the lanes are narrowed. According to the Highway Capacity Manual, capacity is lowered by 3% if lane widths are narrowed from 12 feet to 11 feet and 7% if lanes are narrowed to 10 feet.

6. **Curb Radii:** The curb radius of intersection corners impacts turning vehicles and pedestrian crossing distances. Larger radii allow larger vehicles, such as trucks and buses, to make turns without encroaching on opposing travel lanes or the sidewalk, but increase the crossing distance for pedestrians and allows smaller vehicles to turn at faster speeds. Shorter curb radii slow turning traffic and create shorter crossing distances, but make it difficult for larger vehicles to safely navigate the intersection. The curb radii that is chosen by the designer should reflect the number of pedestrians, the number of right turns by larger vehicles, length of the pedestrian crossing, and the width of intersecting streets.

   The curb radii must meet the AASHTO Green Book turning templates for the design vehicle selected. The curb radii may be modified if parking lanes and or bike lanes are present. It is acceptable to have encroachment into same-direction lanes on the receiving street. It is not acceptable to design a curb radius that calls for turning vehicles to encroach upon the opposing traffic lanes. The minimum curb radii in all cases should be 15 feet.

7. **Curb Extensions or Bump-outs:** Curb extensions or bump-outs are expansion of the curb line into the adjacent street. They are traditionally found at intersections where on-street parking exists, but may be located mid-block. Bump-outs narrow the street both physically and visually, slow turning vehicles, shorten pedestrian crossing distances, make pedestrians more visible to drivers, and provide space for street furniture. Use of curb extensions does not preclude the necessity to meet the turning radii needs of the selected design vehicle.

8. **Bicycle Facilities:** Bicycle facilities provide opportunities for a range of users and are a fundamental element of complete streets design. In Iowa, bicycles are legally considered a vehicle and thus have legal rights to use any street facility unless specifically prohibited. They also have legal responsibilities to obey all traffic regulations as a vehicle. Bicycle facilities generally are one of the following three types:
   a. **Shared Use Paths:** Separate travel ways for non-motorized uses. Bicycles, pedestrians, skaters, and others use these paths for commuting and recreation. Generally used by less experienced bicyclists.

b. **Shared Lanes:** These are lanes shared by vehicles and bikes without sufficient width or demand for separate bike lanes. They may be marked or unmarked. Low speed, low volume residential streets generally will not have pavement markings. For higher speed facilities, sharrow pavement markings and signage are used to remind drivers of the presence of bicyclists in the travel lane. Placing the sharrow markings between vehicle wheel tracks increases the life of the marking. These types of shares lanes are used more for commuting than recreation.
c. **Bike Lanes:** Dedicated lanes used on higher speed, higher volume streets separated from vehicle lanes or on-street parking spaces by pavement markings. No specific standards for when to use bike lanes exist, but conflicts between bikes and vehicles in shared lanes generally become problematic when vehicular volumes exceed 3,000 to 5,000 ADT and operating speeds are 30 mph or greater. Bicycle lanes should be a minimum of 5 feet wide on curbed pavements and 4 feet wide on rural cross-sections. If possible, a buffer zone of 3 feet should be provided between the bike lane and the on-street parking area to minimize conflicts with bikes and opening vehicle doors. These lanes are generally used by experienced bicyclists for commuting.

Snow and ice control activities impact vehicular lanes and bike lanes differently. Generally plows will leave some snow on the pavement. Vehicles are able to travel through this material but bicyclists may have more difficulty. In addition, the material may refreeze and make bike use more treacherous.

Design information for each bicycle facility type is detailed in Sections 12B -1 through 12B -3. Bicycle parking facilities at destination points will assist in encouraging bike usage.

9. **On-Street Parking:** On-street parking can be an important element for complete street design by calming traffic, providing a buffer for pedestrians if the sidewalk is at the back of curb, in addition to benefiting adjacent retail or residential properties. The width of parallel parking stalls can vary from 7 to 10 feet. Streets with higher traffic volumes and higher speeds should have wider parking spaces or a combination of parking space and buffer zone. Narrower parking spaces can be used if a 3 feet buffer zone is painted between the parking stall and a bike or traffic lane. The buffer zone will minimize exposure of doors opening into bicyclists, as well as facilitate faster access into and out of the parking space. Placement of parking stalls near intersections or mid-block crossings is critical so as to not impede sight lines of pedestrians entering crosswalks. Snow plowing could impact the availability of on-street parking intermittently. Requirements for ADA accessible on-street parking numbers and stall design must be adhered to. Information on those requirements can be found in Section 12A-2.

10. **Sidewalks:** Sidewalks are the one element of a complete street that is likely to provide a facility for all ages and abilities. Often sidewalks are the only way for young and older people alike to move throughout the community. Sidewalk connectivity is critical to encourage users. Sidewalks should be provided on both sides of all streets unless specific alternatives exist or safety is of concern. All sidewalks are required to meet ADA guidelines or be a part of a transition plan to be upgraded. Sections 12A-1 and 12A-2 identify the specific ADA requirements for sidewalks.
Sidewalks that are set back from the curb are safer than if the sidewalk is located at the back of curb. Street furniture and landscaping can add character and improve safety for sidewalks that are located at the back of curb. Providing seating areas within the sidewalk area can further enhance the urban environment and encourage pedestrian activity.

11. **Turn Lanes:** Turn lanes located at intersections provide opportunities for vehicles to exit the through lanes and improve capacity of the street. Two Way Left Turn Lanes (TWLTL) provide the opportunity to access midblock driveways without causing backups in the through lanes.

Turn lanes also allow faster speeds in the through lanes so a trade-off with safety exists especially at intersections.

Width of turn lanes should reflect the character of the traffic. Dedicated left and right turn lane widths should match the width of the lanes on the street. Local streets should not provide separate turn lanes. TWLTL should be a minimum of 12 feet wide because of the presence of through traffic on each side.

12. **Medians:** Medians provide for access management, pedestrian refuge, and additional space for landscaping, lighting, and utilities. Use of medians and the functions provided are dependent upon the width of available right-of-way and the other types of facilities that are included. The minimum width for pedestrian refuge is 6 feet. The minimum width of a median for access control and adjacent to left turn lanes is 4 feet. The minimum width for landscaped medians is 10 feet. Greater widths provide more opportunities for more extensive landscaping.

13. **Transit:** Bus service within the state is limited to the larger metropolitan areas. Currently there are a number of fixed route systems in the state. Smaller communities do not have fixed route service due to lack of demand. Children, elderly, and low-income people are the primary users of a fixed route transit system. In addition to system reliability, use of transit systems as a viable commuting option is directly dependent on the frequency of service and the destinations within the fixed route. To have a successful transit system, stops must be within walking or biking distance of residential areas to attract riders and it must have major retail, employment, and civic centers along its route system.

    Transit stops should be located on the far side of intersections to help reduce delays, minimize conflicts between buses and right turning vehicles, and encourage pedestrians to cross behind the bus where they are more visible to traffic. Far side stops also allow buses to take advantage of gaps in vehicular traffic.

    Bus turn out lanes are also best located on the far side of intersections. These turn outs free up the through lanes adjacent to the bus stop. Transit bulb outs are more pedestrian friendly than turnouts because they provide better visibility of the transit riders, as well as potentially providing space for bus shelters without creating congestion along the sidewalk. With buses stopping in the through lane, bulb-outs also provide traffic calming for the curb lane.

14. **Traffic Signals:** Traffic signals are not usually considered an element of complete streets, but they have many components with direct implications for complete streets. The timing, phasing, and coordination of traffic signals impacts all modes. Well-planned signal cycles reduce delay and unnecessary stops at intersections, thus improving traffic flow without street widening. Traffic signal timing can be designed to control vehicle operating speed along the street and to provide differing levels of protection for crossing pedestrians.

    The flashing don't walk pedestrian phase should be set using a 3.5 feet per second walking speed and the full pedestrian crossing time (walk/flashing don't walk) set using 3.0 feet per second. Some agencies representing the elderly are indicating that the overall walking speed should be 2.7 feet per second to cover a larger portion of the elderly population. ADA accessible pedestrian signal elements, such as audible signal indications, should be included in all new pedestrian signal installations and any installations being upgraded. See Section 13D-1, F for more information on accessible pedestrian signals.

15. **Summary:** The table below summarizes some of the critical design elements that should be examined if a complete streets project is implemented. Other geometric elements can be found in Table 5C-1.02. Some of the lane width values shown in the table below differ from the

acceptable values from Section 5C-1 because the expectation is that the complete street environment includes the potential for on-street parking and/or bike lanes. Adjustments in the values may be necessary to accommodate large volumes of trucks or buses. Contact the Jurisdictional Engineer if design exceptions are being considered.

Table 5M-1.01: Preferred Design Elements for Complete Streets

Classification	Local				Collector						Arterial					
Posted Speed (mph)	25		30		25		30		35 and Up		25		30		35 and Up	
Land use[1]	*Res.*	*C/I*	*Res.*	*C/I*	*Res.*	*C/I*	*Res.*	*C/I*	*Res.*	*C/I*	*Res.*	*C/I*	*Res.*	*C/I*	*Res.*	*C/I*
Travel lane width (ft)[2]	10[3]	11	10	11	11	11	11	11	11	12	11	11	11	12	12	12
Turn lane width (ft)	--	--	--	--	11	11	11	11	11	12	11	11	11	12	12	12
Two-way left-turn lanes width (ft)	--	--	--	--	12	12	12	12	12	12	12	12	12	12	12	12
Curb Offset (ft)[4]	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2	2	2	2	2	2
Parallel parking width (no buffer) (ft)[5]	8	8	8	8	8	9	8	9	9	9	10	10	10	10	10	10
Curb radii (ft)[6]	15	15	15	15	15	25	15	25	25	30	15	25	15	25	25	30
Bike lane width (ft)[7]	--	--	--	--	5	5	5	5	5	5	5	5	5	5	5	5

[1] Res. = Residential, C/I = Commercial/Industrial
[2] Minimum sharrow lane width is 13 feet.
[3] For low volume residential streets, two free flowing lanes are not required. They can operate as yield streets if parking is allowed on both sides and vehicles are parked across from each other.
[4] Curb offset, less the width of the curb, may be used in the parallel parking lane width.
[5] For arterial or high speed collectors, the parallel parking stall width may be reduced if a minimum 3 feet wide buffer strip is included.
[6] Curb radii may be adjusted based on design vehicle, presence of bike lanes or parking lanes, and the number of receiving lanes. Encroachment of turning vehicles into opposing lanes is not allowed.
[7] If paving is integral without a longitudinal gutter joint, the curb offset, less the width of the curb, may be used as part of a bike lane.

D. Traffic Calming

Traffic calming is different from but related to complete streets philosophies. Through design measures, traffic calming aims to slow traffic down to a desired speed. By slowing vehicular traffic, biking and pedestrian activities are made safer.

It is absolutely critical that traffic calming measures recognize the need to maintain access for emergency vehicles. Unless the situation is unusual, realizing slower speeds involves a series of traffic calming measures. However, too many measures along a street is likely to divert vehicles to adjacent streets and just move the problem or frustrate drivers to the point of complaining to the level necessary for removal of the traffic calming measures. Because of the anticipation that traffic will be just displaced to adjacent streets, it is very important to study a larger area than a single street when evaluating traffic calming measures.

Many design elements will accomplish traffic calming. These include the following.

- Reduction in lane widths:
  - Short medians
  - Bulb outs
  - Lane striping
- Lateral shifts
  - Chicanes
- Raised/tabled intersections
- Raised/tabled cross walks
- Speed humps or speed cushions
- Traffic circles
- Radar speed signs

Choosing the design elements to use for a particular area will depend on the neighborhood context and the specific concern to be addressed. Prior to evaluating alternative measures, stakeholders must be educated so they can have meaningful involvement. The evaluation needs to involve all stakeholders in the definition of the problem. If possible, all stakeholders, including drivers, pedestrians, bicyclists, and area property owners, would achieve some level of agreement on the traffic calming plan prior to implementation.

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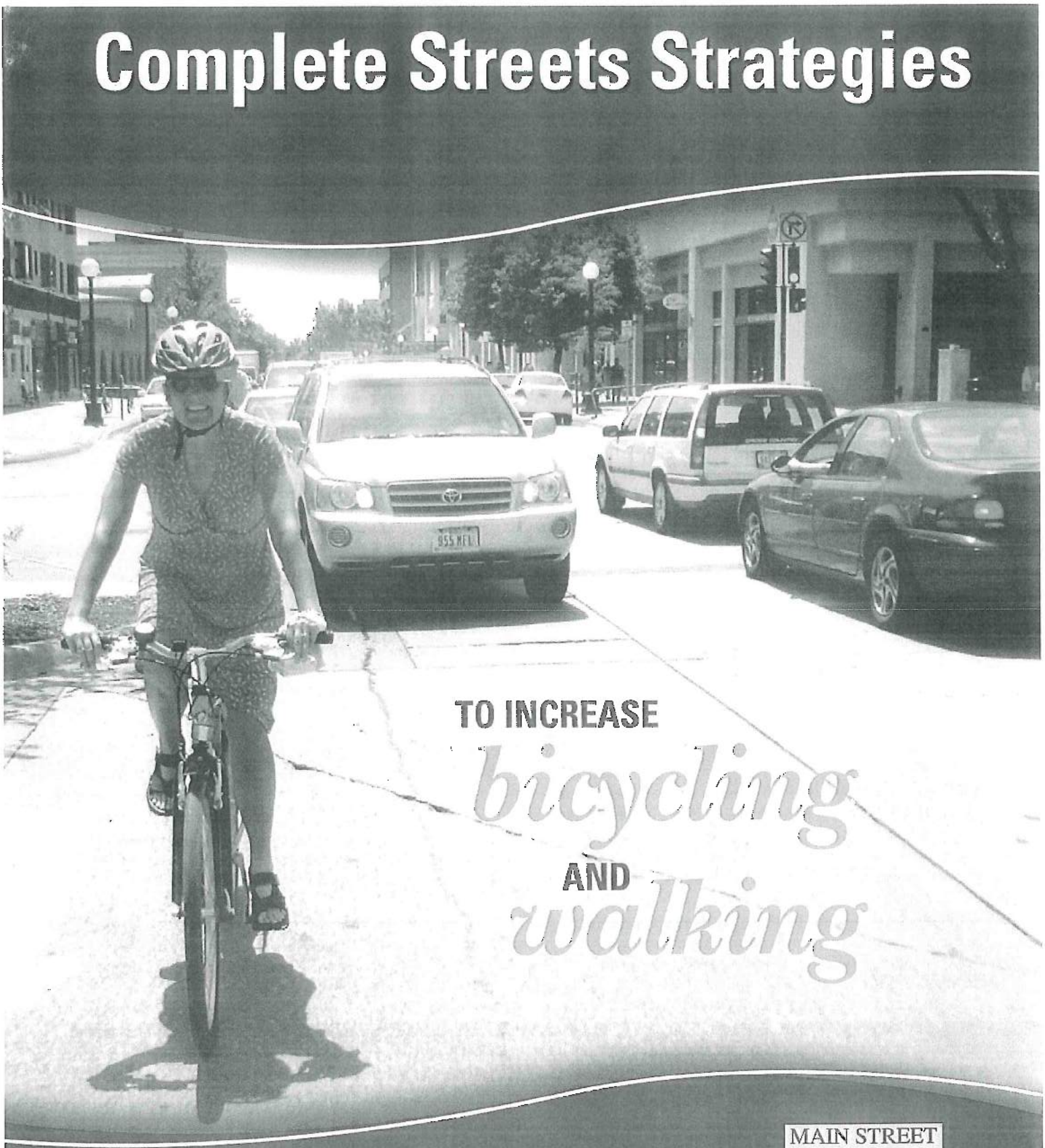
Complete Streets Strategies



TO INCREASE

bicycling

AND

walking

IOWA BICYCLE COALITION

IOWA
economic DEVELOPMENT

MAIN STREET IOWA
25
QUARTER CENTURY OF CHANGE

INTRODUCTION

Table of Contents

Complete Streets

Introduction

This publication provides examples of strategies that increase walking and bicycling within a community, and highlights unique considerations for historic commercial districts. Historic commercial districts are a habitual destination for residents to utilize services, eat, and shop, and are a key asset to build upon to improve the conditions for walking and bicycling community-wide. Connecting destinations like schools, parks, and shops with walking and bicycling facilities increases the opportunities to make frequent trips by foot or bicycle.

Iowa communities are well-positioned to take advantage of complete streets strategies to achieve long-term benefits. The increasing senior population will benefit from having easier access to services through independent, non-automotive transportation. Communities seeking to attract families with children will become attractive places to live or establish a business by demonstrating that kids can easily walk to school or a nearby park. Iowa's growing trail networks are planting the seeds for a culture of bicycling, but on-street accommodations for bicyclists are needed to ensure that community destinations are easy to get to by bicycle, and transportation needs can be met in addition to recreation. Other Midwestern communities like Madison, Wisconsin and Minneapolis, Minnesota have proven that colder climates aren't a deterrent to walking and biking, and Iowa communities can realize similar benefits.

Americans have become increasingly dependent on the automobile for mobility. Often, it is the only means to access some destinations. According to the National Household Travel Survey, 65% of automobile trips are less than 3 miles. A similar 3-mile trip by bicycle takes only 20 minutes. Making destinations easily accessible by foot or bicycle improves safety for all users of the transportation system, decreases traffic congestion and demand for parking, and supports the health and wellness of citizens.

Implementation of complete streets strategies is most successful when the city government has a supportive role, partnering and education occurs amongst various local organizations, and input is utilized from the public. This publication can be utilized by any community member, local business or Main Street volunteer that seeks to further understand how improvements can be made to become a more bicycle and pedestrian-friendly community.

COMPLETE STREETS APPROACH

Complete streets is a new approach to our network of streets and roads in our transportation system. A street that is complete is accessible for all users of the transportation system. This includes pedestrians, bicyclists, transit users, disabled users, automobile users, and freight. Unfortunately, many of the streets in our communities are "incomplete" with a monolithic focus on the automobile as the only way to get from point A to point B.

In areas with complete streets, you find sidewalks, curb ramps, crosswalks, bicycle lanes or facilities, transit stops, and automobile lanes. All users, regardless of age or ability, can access the same destinations by using different modes of transportation.

In 2000, the Federal Highway Administration (FHWA) adopted a guidance that states, "...bicycle and pedestrian ways shall be established in new construction and reconstruction projects in all urbanized areas unless one or more of three conditions are met.

1. The costs are excessive (defined as more than 20% of project costs),
2. There is an absence of need (including future need),
3. Bicyclists or pedestrians are prohibited from traveling by law."

Since 2000, a number of communities across the United States have adopted their own complete streets policies. These policies are often similar to the FHWA guidance but actually require implementation of complete streets.

A good policy does not dictate the precise elements of a complete street but allows designers to engineer the best safety solutions within the context of the project. There is no "cookie cutter" approach to complete streets. For example, a quiet, low-traffic, residential street may very well be complete as it is. It does not need a bike lane for safe bicycling, and crosswalks may not need paint to improve pedestrian safety. This same street design may be as safe for bicyclists and pedestrians on high-speed arterial roadways.

Historic commercial districts are particularly suited for complete streets. With stores near each other, shoppers are encouraged to walk from store to store rather than drive to each. Traffic moves at a slower pace because of frequent intersections and traffic controls. Vehicle storage is an issue in these districts. Free parking may bring customers to your door but also consumes a lot of space. Inviting bicycle and pedestrian facilities may encourage more people to shop, dine, or do business without using an automobile. The Five E's: A Strategy for Increasing Walking and Bicycling.

A newly installed bike lane on Ingersoll Avenue in Des Moines. The city has adopted a complete streets policy and working to incorporate elements in road projects.

A national strategy has been developed to increase walking and bicycling called the Five E's:

- Engineering
- Education
- Encouragement
- Enforcement
- Evaluation

Engineering addresses the built environment with roads, streets, sidewalks, and signs. Education teaches safety to users of the transportation system. Encouragement represents programs that increase the popularity of bicycling and walking. Enforcement represents exercises from the police to help citizens follow traffic law. Finally, Evaluation assigns metrics to our transportation system to measure success.

Complete streets do not prescribe "one size fits all" facilities. A complete street in a neighborhood may require sidewalks and shared roadway bicycle facilities. A complete street along a highway may require a separated trail. It is up to community leaders to apply the latest and best design standards to safely serve bicyclists and pedestrians.

BICYCLE ELEMENTS

Bicycle should be considered vehicles and may use the existing roadways. Communities that have a connected gride street system are ideal for bicycling. There are ways to enhance bicycle routes and fill gaps that prevent bicycle transporation.

Shared Roadway

Up to 85% of city streets are complete as they are today. As long as they provide a safe riding surface free of debris and potholes, the standard residential street is comfortable to bicyclists. Roads that are part of a grid system with low traffic speeds and volumes are perfect for bicycling. As speeds increase, more treatment may be required to accommodate bicyclists.

Wide Outside Lane

Some communities are installing a wide outside lane to accommodate bicyclists. A normal lane is 10-12 feet wide. A wide outside lane is 14-15 feet wide. This allows for a motor vehicle and bicycle to share the same lane side by side.

Signed Bicycle Routes

Communities can sign routes that bicyclists may prefer to use. It is encouraged to use signs that point to destinations. Some signs note the time and distance it takes to travel to the destination by bicycle at 9 mph (downtown, 1 mile, 9 minutes).

Some signed bicycle routes may connect two segments of a trail. A new, experimental treatment is the bike breadcrumb. This is a street marking showing a bicycle and an arrow directing bicyclists to the connecting trail.

Sharrows

Sharrows are a new treatment recently recommended in the Manual for Uniform Traffic Control Devices (MUTCD). A sharrow is a shared roadway with a pavement marking guiding bicyclists where to ride. It is a bicycle symbol with two chevrons above it. Sharrows act like bike lanes but can be placed on roadways where there isn't enough room for bike lanes. Studies have shown motorists give bicyclists more room when sharrows are present.

Sharrows are generally placed 4' from the curb or 11' from the curb if on-street parking exists. These distances are a minimum and sharrows may be placed closer to the centerline if warranted.

A bicyclist shares the lane of traffic with other motor vehicles on the Mississippi River Trail near Wapello.

The motorist and bicyclist share the lane laterally in this wide outside lane in Coralville.

A sharrow is placed along 33rd Avenue in Cedar Rapids as part of a complete streets component to the street upgrade.

BICYCLE ELEMENTS

A bike lane in use in Des Moines.

Bike Lanes

Bike lanes are a traffic lane for the exclusive use of bicyclists. Bike lanes are generally 5' wide with a curb and 4' wide if no curb exists. Bike lanes are only separated from motor vehicle traffic by a strip of paint, so bicyclists may freely exit the lane to make turns or avoid debris. Bike lanes should be used with caution against parked cars because opening doors or backing cars can create conflicts for bicyclists.

Bike lanes should be dashed or signed if ending or if traffic will merge through the bike lane to access a turning lane. Bike lanes do not provide protection for cyclists, and people should be on the lookout for bicyclists and automobiles. Bike lanes should only be one-way facilities following the flow of traffic and should be placed on the right side of the roadway between parked vehicles and moving traffic. Consult the Manual For Uniform Traffic Control Devices (MUTCD) for more information on the installation of bike lanes.

A low-traffic residential street has been converted to a bicycle boulevard.

Bicycle Boulevard

A bicycle boulevard is a city street that uses traffic calming to prioritize bicycle traffic. At the most basic level of a bicycle boulevard, a street can be signed to encourage and connect bicycle traffic. As the complexity of traffic calming increases, a bicycle boulevard can change the rights of way for stop or yield signs, use speed humps or traffic circles, or employ traffic diversion. The bicycle boulevard restricts through traffic on streets but does not restrict traffic access. Typically, local traffic use is encouraged but through traffic speeding through neighborhoods is discouraged.

Trails

A trail or path is a multi-use facility for non-motorized transportation. Trails are best used when they connect areas not already connected by the streets system. They are usually enjoyable and scenic.

Trails that run along roads with frequent driveways and intersections are not recommended. Turning conflicts are similar to frontage roads, and the right-of-way for bicyclists and pedestrians are ambiguous.

Trails can be expensive but provide great enjoyment to users of all ages. Multiple funding sources are available for trails, but demand and competition for funding is high.

Underpasses are effective solutions, but expensive.

Overpasses and Underpasses

Sometimes, the safest route for bicyclists and pedestrians is to use a tunnel or bridge to bypass a busy roadway. These facilities are typically expensive and require large land footprints. Communities need to evaluate the ease of use for users – if takes a lot of energy to ride/walk up and over a bridge, users may not use it and cross at undesirable locations.

Security is a major consideration for underpasses. Users should be able see the ingress and egress portions of the underpass for increased security.

PEDESTRIAN ELEMENTS

Sidewalks and crosswalks are prerequisites for increasing walking in a community. There is more communities can do to improve the walking experience and safety for its residents. It's also important to note safe and convenient walking facilities help increase tourism and create a pleasant experience for pedestrians utilizing the shops and services of a historic commercial district.

Sidewalks

Wide sidewalks are essential elements for downtown streets.

Sidewalks are necessary for pedestrian traffic and serve as an exclusive area for people to walk. If sidewalks are not built, pedestrians usually walk in the street. Walking in the street is an uncomfortable experience and unsafe for children.

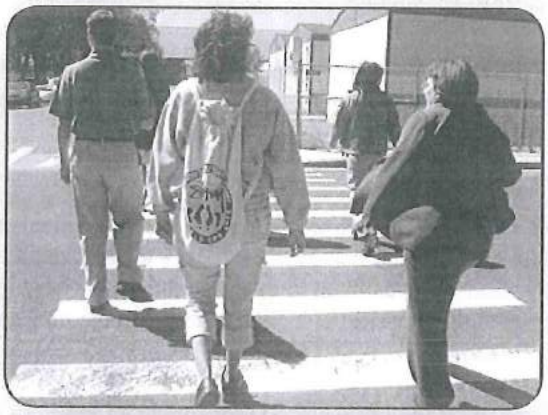
Communities should establish programs that inspect sidewalks for repair or replacement annually. Sidewalk infill programs help prioritize how to phase in new sidewalks to be installed in areas where they are completely lacking.

Many communities use unique surfaces, like brick, for a crossing. Besure your crosswalk is visible to motorists.

Walking to and through the historic commercial district's destinations should be both comfortable and safe while traveling between destinations. In the wintertime, programs are needed to ensure property owners clear snow and ice to reduce liability and increase use of sidewalks.

Sidewalks should be as wide as possible in historic commercial districts to accommodate frequent and heavy pedestrian traffic. Parking, roadway width and storefront setbacks can influence how much room may be available.

Sidewalks that are close to the street and moving traffic are uncomfortable for for the pedestrian and can pose saftey issues. Efforts shoul be made to provide a buffer between the street and sidewalk. In a historic commercial district, street furniture, amenities, landscaping, bicycle parking, and lighting can be used as long as it leaves pedestrians enough space. Depending on the area in the community, bike lanes, paved shoulders, parked cars, or grass can all serve as a buffer.



High visibility crosswalk markings create driver awareness.

Crosswalks

Crosswalks serve a dual purpose. They show pedestrians safe crossing areas, and they create motorist awareness of a pedestrian crossing. Crosswalks are typically located at intersections but can be placed in the middle of a block.

There are three types of common crosswalks: the unmarked crosswalk, the two-line marked crosswalk, and high visibility crosswalks. Most crosswalks in residential areas are unmarked, and they serve users well.

The continental-style crosswalk marking provides increased visibility for pedestrian and awareness for motorists. Using blocks of paint rather than lines, there is more surface area for motorists to recognize.

It is not recommended to combine perpendicular sidewalks into one crossing. Instead, each sidewalk should have its own ramp to the curb. This keeps a tighter radius in the corner and stops traffic from driving over the crosswalk area.

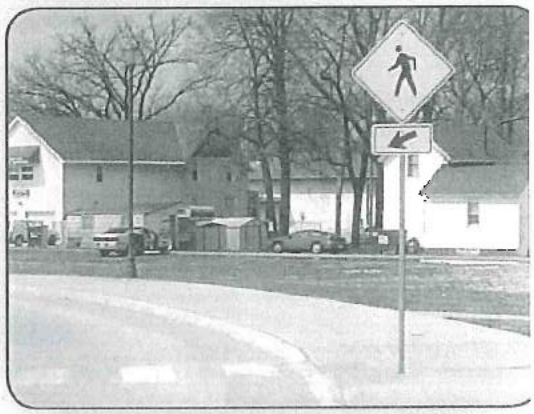
PEDESTRIAN ELEMENTS

Crosswalk Signs

Crosswalks should be signed to create awareness. Typically, a "crossing ahead" sign is used followed by a crossing with an arrow pointing to the crosswalk. Sometimes, it may be noted a crosswalk is a certain distance from the sign.

In-Street Crosswalk Signs

A sign has been developed that has proven evidence of slowing automobiles at critical crosswalks. The in-street sign is no bigger than a pair of centerlines but channelizes traffic enough to reduce speeds. The sign is bolted to the pavement on a flexible pole. Some communities remove the sign during the winter and some leave them in place.



A high visibility crosswalk sign with arrow creates awareness for a crosswalk with heavy pedestrian traffic to the Oelwein downtown.

Raised Crosswalks

A raised pedestrain crosswalk on the University of Iowa campus.

Crosswalk visibility can be increased by raising the crosswalk. By creating a crosswalk six inches higher than the grade of the pavement can create a traffic calming effect. Ramps leading to raised crosswalks are snow plow and fire truck friendly. Raised crosswalks are especially beneficial in school zones because the children are more visible than they would be at street level.

Signalized Intersection Crosswalks

Many communities have traffic signals at intersections. Most have a push button for pedestrian activation or some means to detect pedestrians present at the crosswalk. It is important that signals are adjusted to the current estimate of pedestrian speed of four feet per second. Activation should comply with the Americans with Disabilities Act (ADA).

Countdown Indicators

Indicators that count down remaining walk time can be added to the Walk/Don't Walk light at crosswalks. Countdown indicators have been successful in reassuring the pedestrian how long they have left to cross. Countdown indicators should be considered at every traffic signal location.

Bump-Outs

Long crosswalks leave pedestrians exposed in the intersection for long distances. Pedestrians enjoy shorter crossing distances if at all possible. One way to shorten the crosswalk is the bump out the curb.

Bump-outs can be created in the empty space between the curb to the beginning of the traffic through lane. If you bump out the curb area you shorten the crosswalk.

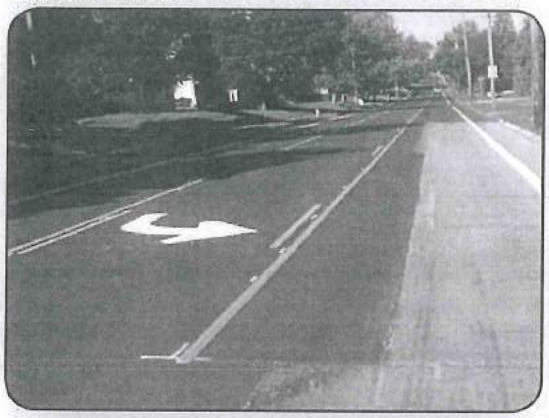
Bump-outs can be done with mid-block crosswalks. In addition to the shorter crosswalk, more visibility exists for the pedestrian. A bump-out is much better than requiring the pedestrian to cross between two parked cars.

A bump-out in the Oelwein downtown area shortens the pedestrian crosswalk and narrows the traffic lane enough to slow cars.

TRAFFIC CALMING

Another technique to help improve the pedestrian and bicyclist experience is traffic calming. This typically utilizes engineering to make traffic move at a more consistent and safe speed. Some traffic calming techniques can be as simple as reconfiguring the lanes. Some may require more invasive engineering.

Road Diet



Davenport reconfigured a four-lane road to a three-lane road diet. The center turn lane helps reduce collisions. The remaining space is used for bike lanes.

A road diet converts an existing four-lane roadway into a three-lane roadway. Ther is a lane of traffic for each direction and a two-way, center turn lane for left-turning traffic. Often, there is space leftover for a paved shoulder or bike lane.

A road diet improves safety for motorists. Turning traffic does not block a lane of through-traffic, so collisions are reduced. Through traffic travels at a more consistent speed. A road diet often moves the same amount of traffic with little additional wait time.

Communities are often resistant to the road diet concept, but after testing the configuration, many communities do not want to return to a four-lane configuration.

A speed hump is effective at reducing traffic speeds. Generally, speed humps are compatible with snow removal and truck traffic.

Speed Humps

Speed humps are longer and more gradual than the speed bumps of yesteryear. Speed humps are snowplow and fire truck friendly. Most of all, they slow down vehicles.

Traffic Circles and Roundabouts

Traffic circles are small islands in the middle of an intersection. Roundabouts are larger circles that proves one-way circular flow to an intersection. Both will slow down through traffic and allows left-turning traffic to follow around the circle before turning. The result is slower intersection speeds.

Traffic Diverters

Sometimes through-traffic is the program. Using a traffic diverter, automobiles can only make right turns or exit a street but not enter from the diverted location. This reduces the through-traffic to neighborhood traffic only. Automobiles are not prohibited, but they have to enter only through the diverted access. Diverters can accommodate bicyclists with pass-through areas.

An in-street crosswalk sign can also slow traffic for critical pedestrian crossings.

BICYCLE PARKING STATEGIES

Motorists expect parking when they reach their destination, and bicyclists should, too. In smaller communities, bicycle theft may not be a big enough threat to motivate for secure bicycle parking. Organized bicycle parking is typically a problem, and bicycle parking can prevent bicycles from parking in pedestrian areas or becoming trip hazards.

The Inverted U bike rack is effective for short-term bike parking.

Inverted-U Bike Rack

Bicyclists prefer to secure the front wheel and frame of their bike to the bicycle parking rack. The Inverted U-type bicycle rack is generally acceptable for this purpose. The Inverted U is bolted or cemented into the pavement. The Inverted U rack may be mounted on rails so it can be moved for snow removal.

Wave Rack

The Wave-type bicycle rack is common. Bicyclists have a more difficult time understanding how to lock their bicycle to this type of rack. If bicyclists don't use the rack as intended, the capacity may be much lower than planned.

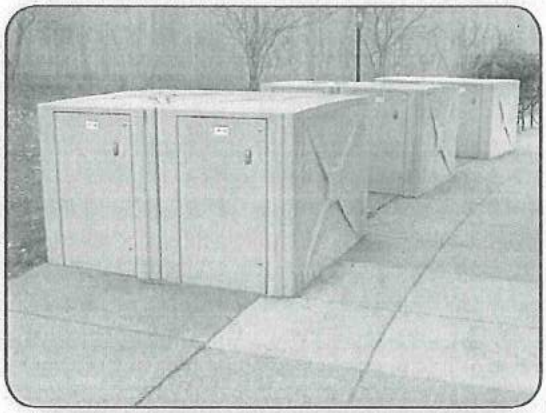
The wave rack is common. There are issues with bikes occupying more than one space or not holding the bike by the frame.

Long-Term Bike Parking

Long-term bicycle parking is usually more secure, lighted, and protected from weather. This may be a simple overhang to protect from rain to an indoor parking room. Some of the best long-term bicycle parking areas take advantage of unused areas inside buildings or parking lots.

Bike Locker

A bike locker can facilitate long-term storage. This is especially useful in downtown living situations where you cannot store your bicycle inside. A bicycle locker is a a keyed or coin-operated storage facility that protects bicycles from weather and provides additional security for long-term storage.



A bike locker can be beneficial to persons living downtown with limited storage.

It generally discouraged to use bicycle racks that hold a bicycle by the wheel rather than the frame. It is difficult to secure the frame. A resourceful bicycle thief can leave the front wheel and take the remaining frame and wheel.

Creative bicycle racks are encouraged, but be sure bicyclists will recognize bicycle parking rather than public art. Bicycle parking can be incorporated into zoning and site planning of new buildings.

ENCOURAGEMENT AND EDUCATION

Engineering is not a sole solution. Encouragement, education, and enforcement activities can help more people start using bicycles. Programs like Bike to Work Week or Safe Routes to School can encourage people to travel by bicycle for everyday activities.

Education activities like a community-wide bicycle rodeo can help kids understand how to use bicycles safely. A pedestrian rodeo can also be developed to teach pedestrian safety.

Enforcement activities like speed enforcement can improve safety for bicyclists, pedestrians, and motorists. The presence of the squad car in trouble areas can be a great asset to addressing traffic issues. Law enforcement strategies should be well publicized and include frequent follow-up to maintain traffic behaviors.

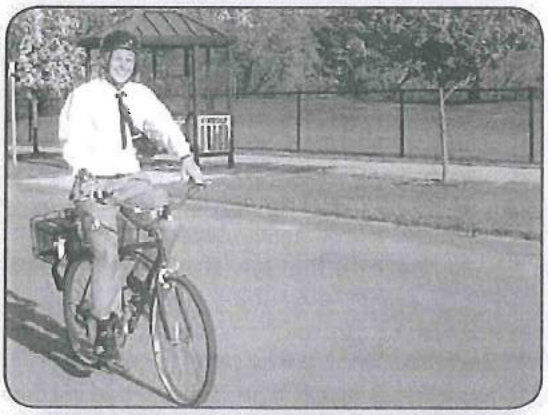
Encouragement strategies can have a variety of tactics, but the ultimate goal is to encourage more use of bicycles for transportation and recreation.

A walking school bus in Manly, Iowa.

A police officer helps with a bike rodeo in Coralville, Iowa.

Shop by Bike

Shop By Bike programs have been widely successful. Participants are encouraged to use their bicycles for shopping. If they make purchases at participating stores, they are given a card with a punch or stamp that documents the purchase. When the card is full, they can be turned in for prizes like community gift certificates. This type of program is very measurable and there may be grant funding to initiate.



Iowa City bicyclist rides to work during Bike to Work Week.

Bike to Work Week

The third week of May is declared Bike to Work Week by the League of American Bicyclists. Bike to Work Week is aimed at adult workers and encourages them to ride their bicycles to work at least once during this week to promote alternative transportation. Many communities set up commuter breakfasts or after work parties for bike commuters. Communities of any size can establish a Bike to Work Week campaign. Free materials are available to help promote the event from the Iowa Bicycle Coalition.

Safe Routes to School

A Safe Routes to School program encourages kids to walk or ride bicycles to school. In 1972 kids walking or bicycling made up 62% of elementary students. Sadly, kids walking or bicycling have dropped to about 15%. Programs have been designed to make it safe, like walking school buses or bike trains. Kids can interact with their peers and gain exercise. Free workshops are available from the Iowa Bicycle Coalition and can help establish a community Safe Routes to School program. The Iowa DOT offers competitive grants to established local programs to implement improvements such as sidewalks and educational programs.

ADDITIONAL RESOURCES

National Resources

National Complete Streets Coalition
http://www.completestreets.org/

The Five E's, Bicycle Friendly Community, League of American Bicyclists
http://www.bikeleague.org/programs/bicyclefriendlyamerica/communities/bfc_five-Es.php

Shared Roadways and Wide Outside Lanes, Bicycle and Pedestrian Information Center
http://www.bicyclinginfo.org/engineering/facilities-roadways.cfm http://www.bicyclinginfo.org/engineering/facilities-widelanes.cfm

San Franscisco's Shared Lane Pavement Marking
http://www.sfmta.com/cms/uploadedfiles/dpt/bike/Bike_Plan/Shared%20Lane%20Marking%20Full%20Report-052404.pdf

Manual for Uniform Traffic Control Devices (MUTCD)
http://mutcd.fhwa.dot.gov

PedSafe: Pedestrian Safety Guide and Countermeasure Selection System
http://www.walkinginfo.org/pedsafe

Traffic Calming
http://www.trafficcalming.org/

Association of Pedestrian and Bicycle Professions (APBP)
http://www.apbp.org

Bike Month
http://www.bikeleague.org/programs/bikemonth/

National Center for Safe Routes to Schools
http://www.saferoutesinfo.org

Iowa Resources

Iowa Safe Routes To School Encouragment and Education Program
http://www.iowasaferoutes.org

Iowa DOT Safe Routes To School
http://www.iowadot.gov/saferoutes/

Iowa Department of Economic Development Transportation Resources
http://iowalifechanging.com/community/resources/transportation.aspx

Iowa Department of Transportation Systems Planning
http://www.iowadot.gov/systems_planning/bicycle_pedestrian_planning.html

Free Education Materials from the Iowa DOT
http://www.iowadot.gov/iowabikes/freebies.htm

Iowa Bicycle Coalition
http://www.IowaBicycleCoalition.org

Iowa Bicycle Coalition
P.O. Box 5562 Coralville, Iowa 52241
Phone: (515) 309-2867
www.IowaBicycleCoalition.org
www.facebook.com/IowaBicycleCoalition
www.twitter.com/IowaBicycle

This publicationwas created by Iowa Bicycle Coalition for the Iowa Department of Economic Development / Main Street Iowa with support of USDA Rural Development Grant. The Iowa Department of Economic Development is an intermediary of USDA assistance.

Photos credit: Mark Wyatt, Iowa Bicycle Coalition

Complete Streets Sources
3/24/17

National Complete Streets Coalition
https://smartgrowthamerica.org/program/national-complete-streets-coalition/
Places with complete streets policies (around 1,100)
https://smartgrowthamerica.org/program/national-complete-streets-coalition/policy-development/policy-atlas/

Article in Public Roads from 2010
https://www.fhwa.dot.gov/publications/publicroads/10julaug/03.cfm

Iowa Economic Development publication on strategies (n.d.)
https://www.iowaeconomicdevelopment.com/userdocs/programs/CompleteStreetsGuide.pdf

APA PAS report
https://www.planning.org/research/streets/
(also https://www.planning.org/planning/2014/may/completestreets.htm)

Chicago toolkit from 2016
http://www.cmap.illinois.gov/programs-and-resources/local-ordinances-toolkits/complete-streets

DOT on complete streets
https://www.transportation.gov/policy-initiatives/ped-bike-safety/mayors-challenge-1-complete-streets

Community Tree Policy for West Branch

A core responsibility of any city administration is to provide for and maintain the community's infrastructure, which are physical assets that support the city's basic functions. Many communities have started to think of infrastructure as having two components: gray infrastructure (buildings, roads, utilities) and green infrastructure (trees, shrubs, grass). This shift in perspective is not simply calling vegetation by a more important-sounding name, but a recognition that green infrastructure works in tandem with the gray infrastructure and impacts the functioning of the system as a whole.

The importance of green infrastructure is particularly true in terms of stormwater management. Impermeable surfaces such as roads and parking lots increase runoff, raise the temperature of water entering storm sewers, and are a site of pollutant transfer (such as road salts, oil, and lawn fertilizers) to stormwater, all of which creates additional burdens on storm sewers and water treatment facilities. Green infrastructure mitigates these effects by slowing run-off, cooling surface water temperatures, and filtering pollutants.

In West Branch, a tree policy meant to build a robust green infrastructure for the community can complement and support other key goals established for a city in the Comprehensive Plan. These include the Smart Growth strategies outlined in Chapter 3 which call for "the protection, preservation and restoration of natural resources," as well as the economic development strategies explored in Chapter 7. As noted in that chapter, when surveyed as part of the comprehensive planning process, "64% of [residents] strongly agree or agreed that the City's appearance through tree plantings, flowers, and landscaping is adequate," suggesting West Branch residents value vegetation in the community. At the same time it suggestion more than a third see room for improvement.

What are the benefits?

Although the benefits of a tree policy that spring most readily to mind are environmental, trees have demonstrable benefits in multiple areas and are best understood as offering a combination of positive effects. The environmental benefits extend beyond mitigating stormwater runoff and include reducing air pollution (nitrogen dioxide, sulfur dioxide, ozone, carbon dioxide and particulate matter less than 10 microns), contributing to reduced energy costs by shading and cooling built structures, and providing habitat that contributes to the ecological health of the community.[1]

Image source: Heartland Tree Alliance

Trees contribute to the attractiveness of outdoor spaces, from community parks to neighborhood streets to individual backyards, all of which encourages outdoor recreation. This can be a countervailing force against sedentary lifestyles that contribute to earlier mortality, cardiovascular disease, and some types of cancer.[2] At the same time, trees also provide some protection against sun exposure in outdoor areas, doubling the amount of time it takes to get a sunburn, which in turn can help limit a factor in incidence of melanoma.[3] The ability of trees to filter air pollutants and thus can have an impact on asthma rates.[4] Finally, trees have important mental health benefits. Residents

who move from areas with less vegetation to areas that have more greenery evidence significant mental health improvements that are sustained over the long term.[5] This could be one reason people show a preference for living in greener areas.

Trees also provide substantial economic benefits, including increases to residential property values. Homes with trees in their yards sell on overage for 20% more than similarly sized lots that have no trees[6] and they also sell faster – a survey of realtors found that 85% of those polled believed property that includes trees is 20% mare salable.[7] The economic benefits of trees extend to commercial areas as well. Shoppers visiting areas with tree-lined streets have been shown to be willing to pay more for parking and stay longer in commercial districts with large, well-maintained trees.[8]

In 2011, an report prepared by the Iowa Department of Natural Resources (IDNR) that inventoried and assessed trees in West Branch determined that the trees within the community provide $75, 851 ($81,887 today, adjusted for inflation) in total annual benefits to the community.[9] See appendix A for more detailed information on these benefits.

What we propose for the West Branch Comprehensive Plan

Strengthen and incorporate trees in community planning documents

As previously noted, the Comprehensive Plan already contains elements that intersect with a community tree plan. We will make those connections more explicit by interweaving aspects of the Tree Management Plan created for West Branch by the Iowa Department of Natural Resources in 2011 with those Comprehensive Plan sections where goals overlap, creating a plan that is more integrated and serves to achieve multiple goals.

At the same time, we will identify "next steps" for the Tree Management Plan that can build upon its successes and help achieve its long-term goals. This could include opportunities to incorporate the tree plan into other planning documents. Possibilities include suggestions for including tree planting requirements in development plan submissions, tree-planting and tree-preservation requirements in subdivision regulations, development impact fees, and enforcement standards for tree planning and maintenance in parking lots. It will be up to the city council as to whether or not they would want to take up these recommendations.

Elements of a Successful Community Tree Program (Elmendorf, Cotrone, and Mullen, 2003)
• Tree and planning commissions that value trees
• Continuity of support among governing officials
• Long-term citizen support
• Professional assistance
• Educational support for planning commission
• Management plans and missions
• Grant funds
• Dedicated, informed volunteers
• Ordinances and enforcement
• Awards and celebration

Finally, we will create an appendix to the Comprehensive Plan that identifies preferred tree species, discussed in more detail in the next section. Such an appendix can help guide the community's future tree planting efforts in both the public and private spheres.

Establish a plan to diversify the community tree canopy

When a single species or a small group of species dominates the tree cover of a community, that community is vulnerable to losing a significant portion of its investment in trees to disease and infestation. Such was the experience of many communities in the 1960s with the rapid spread of Dutch elm disease and is once again being experienced by communities with the rise of emerald ash borer.

The IDNR survey of trees in West Branch in 2011 found over 36 species of trees, 43.4% of which were maple. This is a disproportionately high representation of a single genus. As part of the Comprehensive Plan, we propose to include a table of native tree species as preferred trees for planting in West Branch. Species of maple trees have been removed from this list to help foster greater tree diversity for a healthier community tree collection.

These trees can further be sorted into a table such as the one shown at the end of this report (similar to those found in other comprehensive plans) that classifies trees by certain characteristics and makes recommendations of tree species for certain areas of town (in this case, perhaps those most appropriate for the downtown commercial area and those most appropriate for residential areas).

Potential Preferred List of Native Trees (Compiled by the Iowa Department of Transportation and the Living Roadway Trust Fund of Iowa)
Ash, Black (*Fraxinus nigra*)
Ash, Green (*Fraxinus pennsylvanica*)
Ash, White (*Fraxsinus americana*)
Aspen, Big-tooth (*Populus grandidentata*)
Aspen, Quaking (*Populus tremuloides*)
Basswood (American Linden) (*Tilia americana*)
Birch, Paper (White Birch) (*Betula papyrifera*)
Birch, River (*Betula nigra*)
Buckeye, Ohio (*Aesculus glabra*)
Cedar, Red (*Juniperus virginiana*)
Cherry, Choke (*Prunus serotina*)
Cottonwood (*Populus deltoides*)
Elm, American (*Ulmus americana*)
Elm, Red (Slippery) (*Ulmus rubra*)
Hackberry (*Celtis occidentalis*)
Hawthorn, Cockspur (*Crateaegus crus-galli*)
Hickory, Bitternut (*Carya cordiformis*)
Hickory, Shagbark (*Carya ovata*)
Honey Locust (*Gleditsia triacanthos*)
Ironwood (Hop Hornbeam) (*Ostrya virginiana*)
Kentucky Coffee Tree (*Gymnocladus dioicus*)
Oak, Bur (*Quercus macrocarpa*)
Oak, Northern Pin (Hill's) (*Quercus ellipsoidalis*)
Oak, Northern Red (*Quercus borealis*)
Oak, Pin (*Quercus palustris*)
Oak, Swamp White (*Quercus bicolor*)
Oak, White (*Quercus alba*)
Pine, Eastern White (*Pinus strobus*)
Plum, Wild (*Prunus americana*)
Sycamore (*Platanus occidentalis*)
Walnut, Black (*Juglans nigra*)

Identify private and civic partners

A financially viable community tree program should not rest on a single funding source. It is important, first and foremost, to establish general fund allocations for the maintenance of street trees, but partnerships with private and civic organizations can be key in supporting a well-rounded and effective tree policy. This includes grant opportunities, but also partnerships that utilize the expertise of organizations such as the Cedar Extension Service to help expand the reach and impact of a tree program.

West Branch already has already proven itself successful in identifying and capitalizing on such opportunities in securing a Trees Forever/Alliant Branching Out Grant. We propose to build on this initiative by identifying other funding opportunities for future West Branch tree planting endeavors and including the list in the Comprehensive Plan. These include the Trees Forever Iowa's Living Roadways Projects Program, which supports plantings for highway roadside and recreational trail projects, and may be useful for projects focused on the Hoover Highway or the Hoover Nature Trail.

It could also include the Alliant ReLeaf program, which provides trees to homeowners for $25/apiece. As a barrier to homeowners participating in this program may be the ability to pick up and transport the trees (which are 10 feet tall, on average), it might be possible for the city of West Branch to partner with Alliant to pick up and deliver trees selected by homeowners. This program could be

paired with one to welcome new homeowners to the community by providing them with trees. The program could further work in partnership with Cedar Extension Services to provide soil testing and information on tree care and maintenance.

Another partnership to include would be a continued relationship with the Iowa DNR, which offers a Trees for Kids/Trees for Teens grant program that awards $1000-$5000 for projects for youth projects planting trees on school grounds and in public spaces. This could help involve younger generations in shaping the community tree canopy. Moreover, a continued relationship with the IDNR can aid in keeping the West Branch Tree Management Plan up to date.

A financially viable community tree program cannot rely solely on grant-Diverse funding mechanisms: general fund allocations, partnership with nonprofits, development fees.

Present trees as an economic investment

Current best practices in tree management suggest communities should move beyond a Street Tree Policy to a more holistic Tree Preservation Policy identifies trees as assets and liabilities. Asset trees are defined as those that provide benefits that exceed the cost of maintaining the tree, while liability trees are defined as those for which costs outweigh benefits or those that pose unacceptable safety risk due to decay or structural defects.

West Branch is already well-positioned in this regard. The West Branch Tree Management Plan prepared by the IDNR takes into consideration the condition of trees identified in the inventory and makes recommendations for maintenance and risk management. At the time of the inventory, 8% of the trees were found to be in need of maintenance and 4% were found to be in poor condition, dying or dead, in terms of wood condition.

An important next step would be to update the maintenance plan, which was outlined as a "Six-Year Plan with No Additional Funding." That plan will expire this year, 2017. It would be important to determine of the trees identified in poor condition, dying or dead, have been removed or otherwise addressed and to determine what current maintenance needs exist.

Appendix A: Economic Benefits of Trees in West Branch

Value of Ecosystem Services Provided by Trees in West Branch (Calculated by the Iowa DNR, 2011)		
Benefits	Value in 2011	Value in 2017, inflation-adjusted
Annual Stormwater Benefits	$21,115	$22,795
Annual Air Quality Benefits	$2,200	$2,375
Annual Carbon Benefits	$24,659	$26,621
Annual Aesthetic Benefits	$13,302	$14,361
Total	**$75,851**	**$81,887**

Appendix B: Sample Comprehensive Plan Tree Chart

Oval 	•	•	•	•	•	•	Dahoon Holly *(Ilex cassine)* Fringe Tree *(Chionanthus virginicus)* Jamaica Caper *(Capparis cynophallophora)* Live Oak var. highrise *(Quercus virginiana var. highrise)* Magnolia Sweet-bay *(Magnolia virginiana)* Red Maple *(Acer rubrum)* Satinleaf *(Chrysophyllum oliviforme)* Southern Magnolia *(Magnolia grandiflora)* Wild Mastic *(Sideroxylon foetidissimum)* Yaupon Holly *(Ilex vomitoria var. pendula)*
Ball 	•	•	•	•	•	•	Black Ironwood *(Krugiodendron ferreum)* Buttonwood *(Conocarpus erectus)* Gumbo Limbo *(Bursera simaruba)* Live Oak *(Quercus virginiana)* Mahogany *(Swietenia mahagoni)* Myrtle Oak *(Quercus myrtifolia)* Orange Geiger Tree *(Cordia sebestena)* Red Bay *(Persea borbonia)* Red Maple *(Acer rubrum Aceraceae)* Southern Magnolia *(Magnolia grandiflora)* Sugarberry *(Celtis laevigata)*
Pyramid 	•	•	•	•		•	Bald Cypress *(Taxodium distichum)* East Palatka Holly *(Ilex attenuata)* Pond Cypress *(Taxodium ascendens)* Southern Cedar *(Juniperus silicicola)* Yaupon Holly *(Ilex vomitoria var. Will Fleming)*
Umbrella 	•	•	•	•		•	Buttonwood *(Conocarpus erectus)* Florida Elm *(Ulmus americana var. floridana)* Hog-plum *(Ximenia americana)* Lancewood *(Ocotea coriacea)* Live Oak *(Quercus virginiana)* Paradise Tree *(Simarouba glauca)* Persimmon *(Diospyros virginiana)* Red Mulberry *(Morus rubra)* Sand Live Oak *(Quercus geminata)* Seagrape *(Coccoloba uvifera)* Wild Tamarind *(Lysiloma latisiliquum)* Winged Elm *(Ulmus alata)*
Vase 	•	•	•			•	Bald Cypress *(Taxodium distichum)* Slash Pine *(Pinus Elliottii)* South Florida Slash Pine *(Pinus Elliottii var. densa)* Loblolly Pine *(Pinus taeda)* Longleaf Pine *(Pinus palustris)* *may be planted along thoroughfares in T5,T6 if wide undisturbed swale is available*

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