AGENDA

REGULAR MEETING OF THE
WINDSOR HEIGHTS CITY COUNCIL
Monday, March 6, 2023 - 6:00 PM
WINDSOR HEIGHTS COUNCIL CHAMBERS - 1133 66th STor VIA ZOOM by registering in advance for this meeting:
https://us02web.zoom.us/j/7832856334
After registering, you will receive a confirmation email containing information about joining the meeting.

Notice to the Public: If you would like the supporting documents and information, please call City Hall by noon the day of the meeting. Copies of City Council Agendas are free to the public. In consideration of all, if you have a cell phone, please turn it off or put it on silent ring. The use of obscene and vulgar language, hate speech, racial slurs, slanderous comments, and any other disruptive behavior during the Council meeting will not be tolerated and the offender may be barred by the presiding officer from further comment before the Council during the meeting and/or removed from the meeting.

1. **Call to Order/Roll Call/Pledge of Allegiance**

2. **Approval of the Agenda**

3. **Public Hearing:**

   A. Public Hearing on the Proposed Fiscal Year 2023-2024 Capital Improvement Plan (CIP)

   B. Consideration of Resolution No. 2023-14 - A Resolution Adopting the Fiscal Year 2023-2024 Capital Improvement Plan (CIP)

4. **Public Forum:** This is time set aside for comments from the public on topics of City business other than those listed on the agenda. No action may be taken. Please come to the podium, state your name and address for the record and keep your comments to no more than 5 minutes.

5. **Consent Agenda:** Any item on the Consent Agenda may be removed for separate consideration.

   A. Approve Minutes of the Regular Council Meeting on February 20, 2023

   B. Approve Minutes of the Council Work Session on February 23, 2023

   C. Approve Payment of Claims

   D. Approve Retail Liquor License - Hy-Vee - 7101 University Ave

   E. Approve Resolution No. 2023-15 - A Resolution Setting Time and Place for a Public Hearing on Proposed Contract Documents and Estimated Costs for the Colby Park 2023 Phase 1 Improvements Project

6. **New Business:**

   A. Consideration of Resolution No. 2023-16 - A Resolution Authorizing the City to Submit to the US Department of Transportation a Rebuilding American Infrastructure Sustainability and Equity (RAISE) Grant Application

   B. FY 2023-2024 Budget Discussion

The agenda was posted on the official bulletin boards, posted to www.windsorheights.org, and city social media platforms in compliance with the requirements of city ordinances and the open meetings law.

C. Consideration of Resolution No. 2023-17 - A Resolution Setting Date for Public Hearing to consider the FY24 Maximum Property Tax Dollars

7. **Reports:**

A. Mayor, Council Reports and Committee Updates, and Administration Reports

8. **Closed Session** City Council will convene into closed session pursuant to Iowa Code 21.5(i) to evaluate the professional competency of an individual whose appointment, hiring, performance, or discharge is being considered when necessary to prevent needless and irreparable injury to that individual's reputation and that individual requests a closed session.

A. The Council will Convene into Closed Session

B. The Council will Convene Into Open Session

9. **Adjourn**

The agenda was posted on the official bulletin boards, posted to www.windsorheights.org, and city social media platforms in compliance with the requirements of city ordinances and the open meetings law.

STAFF REPORT
CITY COUNCIL
March 6, 2023

TO: CITY COUNCIL

FROM: Rachelle Swisher, Finance Director - Interim City Administrator

SUBJECT: Public Hearing on the Proposed Fiscal Year 2023-2024 Capital Improvement Plan (CIP)

GENERAL INFORMATION

SUMMARY

ATTACHMENTS

None

STAFF REPORT
CITY COUNCIL
March 6, 2023

TO: CITY COUNCIL

FROM: Rachelle Swisher, Finance Director - Interim City Administrator

SUBJECT: Consideration of Resolution No. 2023-14 - A Resolution Adopting the Fiscal Year 2023-2024 Capital Improvement Plan (CIP)

GENERAL INFORMATION

SUMMARY

ATTACHMENTS

1. Resolution No. 2023-14 - A Resolution Adopting CIP
2. FY 2023-2024 CIP

RESOLUTION NO. 2023-14

A RESOLUTION ADOPTING THE FISCAL YEAR 2023-2024 CAPITAL IMPROVEMENT PLAN (CIP)

WHEREAS, the statutes of the State of Iowa provide that the Capital Improvement Plan (CIP) shall be adopted by the Corporate Authorities of the City of Windsor Heights; and

WHEREAS, the City Council of the City of Windsor Heights has held a necessary hearing after having caused to be made the publication and notice required by law; and

WHEREAS, the City Council of the City of Windsor Heights has reviewed the Capital Improvement Plan for Fiscal Year 2023-2024 as presented by the city staff and to be in the best interest of the City of Windsor Heights; and

NOW, THEREFORE, BE IT HEREBY RESOLVED BY THE CITY COUNCIL OF THE CITY OF WINDSOR HEIGHTS, POLK COUNTY, IOWA, that the Fiscal Year 2023-2024 Capital Improvement Plan for the city of Windsor Heights, Iowa, on file in the City Clerk's Office is hereby adopted and approved.

Passed and approved this 6th day of March, 2023.

_____
Mike Jones, Mayor

ATTEST:

_____
Travis Cooke, City Clerk

WINDSOR HEIGHTS 10 YEAR CIP (FY24-34)

Type of Project	Project Name	Project Description	Project Reasoning	Anticipated/Planned Construction Year (FY)	Internal Funding Sources				Total Cost	External Funding Sources
					Stormwater	Sanitary	Water	Other (GF, TIF, RUT)		
Full Street Reconstruction	73rd Street - Phase 1	Hickman to University. Includes full depth roadway removal and replacement, pedestrian crossing improvements at CLA, point sanitary sewer repairs, stormwater improvements, and water main improvements as needed.	Poor Pavement Conditions as noted on the PCI. Incorporate recommendations of the Stormwater Management Plan -> Figures #5, #8, #9, and parts of #11.	2024	$1,366,700	$896,250	$57,200	$9,959,850	$12,280,000	FFY24 STBG: $1,000,000 FFY25 STBG: $500,000 FFY26 STBG: $750,000 WDMCS: $132,300
	68th Street South	School St to University Ave. Storm sewer installation, sanitary spot repairs, pedestrian connection to School St and Colby Park.	Poor Pavement Conditions as noted on the PCI. Incorporate recommendations of the Stormwater Management Plan -> portions of Figure #12.	2024	$407,571	$428,789	$21,424	$2,386,716	$3,244,500	
	73rd Street - Phase 2	University to Center Street. Includes potential reallignment of 73rd St to accommodate pedestrian facilities between Buffalo Road and Center Street, storm sewer improvements, sanitary sewer point repairs.	Poor Pavement Conditions as noted on the PCI. Improve walkability through the corridor.	Unscheduled	$1,978,630	$72,357	$0	$16,890,712	$18,941,699	
	67th Street	School St to University Ave. Storm sewer installation, sanitary spot repairs, pedestrian connection to School St and Colby Park.	Poor Pavement Conditions as noted on the PCI. Incorporate recommendations of the Stormwater Management Plan -> portions of Figure #12.	2028	$407,571	$414,369	$21,424	$2,370,236	$3,213,600	
	Wilshire Blvd	73rd St to 75th St dead end. Sanitary spot repairs.	Poor pavement conditions as noted on the PCI.	2032	$0	$7,210	$10,712	$723,678	$741,600	
	Carpenter Ave	64th Street to 65th Street. Full depth removal and replacement of the road, installation of some storm sewer and subdrains, sanitary sewer spot repairs.	Pavement conditions as noted on the PCI, shorter section of street that may be able to get completed sooner as funding allows. If paired with Elmcrest Ave, may get more favorable bids.	2034	$117,214	$105,188	$16,068	$863,629	$1,102,099	
	Elmcrest Ave - Phase 1	64th Street to 65th Street. Full depth removal and replacement of the road, installation of some storm sewer and subdrains, sanitary sewer spot repairs.	Pavement conditions as noted on the PCI, shorter section of street that may be able to get completed sooner as funding allows. If paired with Carpenter Ave, may get more favorable bids.	Unscheduled	$117,214	$105,188	$16,068	$863,629	$1,102,099	
	Elmcrest Ave - Phase 2	66th St to 68th St. Full depth removal and replacement of the road, installation of some storm sewer and subdrains, sanitary sewer spot repairs.	Pavement conditions as noted on the PCI, shorter section of street that may be able to get completed sooner as funding allows.	Unscheduled	$62,521	$139,719	$10,712	$971,547	$1,184,499	
	Elmcrest Ave - Phase 3	66th Street east to the dead end. Full depth removal and replacement of the road and sanitary sewer spot repairs.	Pavement conditions as noted on the PCI, shorter section of street that may be able to get completed sooner as funding allows.	Unscheduled	$0	$63,654	$16,068	$620,678	$700,400	
	Timmons Ave	66th to 68th St	Pavement conditions as noted on the PCI, shorter section of street that may be able to get completed sooner as funding allows.	Unscheduled	$177,984	$75,035	$10,712	$879,486	$1,143,217	
	64th Street	University Avenue to Cowles Montessori. Includes sanitary sewer spot repairs, installation of storm sewer and connections into nearest available structures, and water main replacement.	Poor pavement conditions, lack of storm sewer, resident and council request.	Unscheduled	$375,850	$561,350	$453,406	$3,759,294	$5,149,900	
Overlay / Mill & Overlay	Plaza Hills Overlay - Phase 1	Marilyn Dr / 76th St from west City limits to College Drive. Mill and overlay the roadway.		2025				TBD	$1,050,600	
	Forest Court Mill and Overlay	From 64th St to 66th St. Mill off the existing road surface and overlay with a 2" asphalt cap. Full depth patches would be completed as needed.		2027				TBD	$607,700	
	Plaza Hills Overlay - Phase 2	74th Street from Wilshire Blvd to College Drive. Mill and overlay the roadway.		2028				TBD	$288,400	
	Mott Ave Mill and Overlay	64th to 65th Street. Mill off the existing road surface and overlay with a 2" asphalt cap. Full depth patches would be completed as needed.		2029				TBD	$247,200	
	Plaza Hills Overlay - Phase 3	77th Street from Marilyn Drive to College Drive. Mill and overlay the roadway.		2030				TBD	$185,400	
	64th St Mill and Overlay	South of University Ave. Mill off the existing road surface and overlay with a 2" asphalt cap. Full depth patches would be completed as needed.		2032				TBD	$988,800	
	Plaza Hills Overlay - Phase 4	Entirety of Luin Lane between both ends of College Drive. Mill and overlay the roadway.		2034				TBD	$175,100	
	Plaza Hills Overlay - Phase 5	75th St from Wilshire Blvd to College Drive. Mill and overlay the roadway.		Unscheduled				TBD	$288,400	
	Colby Ave Mill and Overlay	70th to 73rd St. Mill off the existing road surface and overlay with a 2" asphalt cap. Full depth patches would be completed as needed.		Unscheduled				TBD	$741,600	
	Plaza Hills Overlay - Phase 6	Plaza Circle south of College Drive to the dead end. Mill and overlay the roadway.		Unscheduled				TBD	$103,000	
	Plaza Hills Overlay - Phase 7	78th St, 79th St, and 80th St between College Drive and Marilyn Drive. 80th Circle north of College Drive. Mill and overlay the roadway. 78th St and 79th St do not require milling, just overlay.		Unscheduled				TBD	$1,545,000	
Pavement Preservation	66th and Colby PCC Patching	Patching and reconstruction of the intersection to the end of the return radius on each side.	Repair panels of concrete that are in poor condition but that are on a street that otherwise is in good condition. Investing a couple hundred thousand dollars every year into full depth patching will ensure that we don't fall behind on maintenance again.	2025				$154,500	$154,500	
	Colby Ave Partial Depth Joint Repairs	66th St to 68th St.Mill out half the depth of existing pavement at failed joints and replace. Similar to work done on 70th Street south of Hickman in 2018.		2025				$123,600	$123,600	
	66th Street Joint Sealing	66th Street from Forest Court to Del Matro.		2025				$61,800	$61,800	

					Internal Funding Sources					
Type of Project	**Project Name**	**Project Description**	**Project Reasoning**	**Anticipated/Planned Construction Year (FY)**	**Stormwater**	**Sanitary**	**Water**	**Other (GF, TIF, RUT)**	**Total Cost**	**External Funding Sources**
Stormwater Standalone Projects	Wilshire Blvd Storm Sewer	Replace the storm sewer on private property between Wilshire and Sunrise. Abandon the pipe on private property and install new sewer on Wilshire to connect to 73rd St.	Stormwater Management Plan	2025	$375,000				$375,000	
	Washington Ave, 70th St, and Northwest Drive Storm Sewer Improvements	Installation of storm sewer along Northwest Drive, 69th St, Washington Ave, and 70th Street in order to increase carrying capacity. Can be split into two phases as needed.	Stormwater Management Plan, Figure #2	2027	$1,500,000				$1,545,000	
	Colby Avenue and Forest Court Storm Sewer Improvements	Increase size and install new storm sewer on Forest Court from 68th Street to 73rd Street. Install storm sewer at the intersection of 70th Street and Colby Avenue.	Stormwater Management Plan, Figure #11	2029	$1,650,000				$1,699,500	
Streambank Stabilization	North Walnut Creek Streambank Stabilization - Phase 1	Protect public infrastructure and private structures that are at risk of being damaged by continued erosion of the streambank on North Walnut Creek. Recommendations for projects will come from a study that is currently in the proposal stage.	Protect public infrastructure and private structures that are at risk of being damaged by continued erosion of the streambank on North Walnut Creek. Recommendations for projects will come from a study that is currently in the proposal stage.	Unscheduled	$500,000				$515,000	
	North Walnut Creek Streambank Stabilization - Phase 2	Protect public infrastructure and private structures that are at risk of being damaged by continued erosion of the streambank on North Walnut Creek. Recommendations for projects will come from a study that is currently in the proposal stage.	Protect public infrastructure and private structures that are at risk of being damaged by continued erosion of the streambank on North Walnut Creek. Recommendations for projects will come from a study that is currently in the proposal stage.	Unscheduled	$500,000				$515,000	
	North Walnut Creek Streambank Stabilization - Phase 3	Protect public infrastructure and private structures that are at risk of being damaged by continued erosion of the streambank on North Walnut Creek. Recommendations for projects will come from a study that is currently in the proposal stage.	Protect public infrastructure and private structures that are at risk of being damaged by continued erosion of the streambank on North Walnut Creek. Recommendations for projects will come from a study that is currently in the proposal stage.	Unscheduled	$500,000				$515,000	
	North Walnut Creek Streambank Stabilization - Phase 4	Protect public infrastructure and private structures that are at risk of being damaged by continued erosion of the streambank on North Walnut Creek. Recommendations for projects will come from a study that is currently in the proposal stage.	Protect public infrastructure and private structures that are at risk of being damaged by continued erosion of the streambank on North Walnut Creek. Recommendations for projects will come from a study that is currently in the proposal stage.	Unscheduled	$500,000				$515,000	
Flood Reduction and Resiliency	Property buy-outs	possible result of a study that is in the proposal stage.		Unscheduled				TBD	$4,635,000	
	Levee construction	possible result of a study that is in the proposal stage.		Unscheduled				TBD	$6,798,000	
	Creek channel clear and grub	possible result of a study that is in the proposal stage.		Unscheduled				TBD	$11,330,000	
Facilities	Public Works Shop Relocation	Public Works Shop Relocation	Move the shop out of the flood plain as a standalone project.	Unscheduled				TBD	$2,060,000	
	Construction of a 'Civic Center'	Construction of a 'Civic Center'	Consolidate City Hall and Public Works into one facility. It could also have a 'pocket park' on the campus.	Unscheduled				TBD	$3,090,000	
Parks and Trails	Dog Park Equipment and Fence Repair	Purchase and install new agility and training equipment in the dog park and new chain link fence along the south side.	Park Master Plan	2023				$85,000	$85,000	
	Phase One Park Plan	Includes the following: Grade Phase 1 areas; Construct new tennis courts and remove old courts; Construct pickle ball courts; Construct new parking stalls on east side of site. Includes ADA improvements.	Park Master Plan	2023				$978,000	$978,000	
	Phase Two Park Plan	Includes the following: Remove traffic circle and existing playground; Grade phase 2 areas; Install playground equipment, surfacing and surrounding amenities; Construct splashpad and amenities. Includes ADA Improvements.	Park Master Plan	Unscheduled				TBD	$2,600,000	
	Phase Three Park Plan	Includes the following: Grade Phase 3 areas; Construct food truck plaza and pedestrian promenade; Construct basketball courts; Add north amenity event space; Install landscape improvements; Construct fitness circuit and install equipment. Includes ADA Improvements.	Park Master Plan	Unscheduled				TBD	$1,200,000	
	Community Garden	Install a community garden.	Council Input	Unscheduled				TBD	$20,000	
	Lion's Park Refresh and Reconfigure	Remove the existing flower beds, incorporate the topography into a play area for younger kids. Add wayfinding signage and amenities.	Park Master Plan	Unscheduled				TBD	$463,500	
	Trail Connection over Walnut Creek south of I-235	Connect the trail systems between WDM, DSM, and Windsor Heights. This is currently in the feasiblity study stage. Waiting to proceed until recommendations are known regarding the flood reduction and resiliency study.	Park Master Plan	Unscheduled				TBD	$772,500	
	Water Trails Access Point in Colby Park	Construct an interactive and immersive feature along Walnut Creek in Colby Park as part of the Greater Des Moines Water Trails projects.	Park Master Plan	Unscheduled				TBD	$1,030,000	
Total Infrastructure Need									**$96,106,213**	
			Adopted ?/?/2023 - Resolution 2023-?							

City of Windsor Heights Regular Business Meeting Minutes
Monday, February 20, 2023 - 6:00 PM
WINDSOR HEIGHTS COUNCIL CHAMBERS - 1133 66th ST

1. **Call to Order/Roll Call/Pledge of Allegiance**

Mayor Jones called the meeting to order at 6:00 PM. Council members present: Susan Skeries, Michael Libbie, Lauren Campbell and Threase Harms. Absent: Joseph Jones. Staff present: Finance Director/Interim City Administrator Rachelle Swisher, City Clerk Travis Cooke, Deputy City Clerk Adam Strait, Public Works Director Jason Roberts, Interim Police Chief Derek Meyer, City Attorney Erin Clanton (via Zoom), and City Engineer Justin Ernst.

2. **Approval of the Agenda**

Motion by Threase Harms to Approve the Agenda. Seconded by Michael Libbie. Motion passed 4-0.

3. **Presentation of Bravo Greater Des Moines FY23-25 Strategic Plan - Bravo Greater Des Moines Executive Director Sally Dix**

A. Bravo Greater Des Moines FY23-25 Strategic Plan

Bravo Greater Des Moines Executive Director Sally Dix presented Bravo's FY 23-24 Strategic Plan.

4. **Public Hearing:**

A. Public Hearing on Proposed Contract Documents (plans, specifications and form of contract) and Estimated Cost for the 68th Street Reconstruction Improvements

Motion by Threase Harms to Open the Public Hearing at 6:15 PM. Seconded by Michael Libbie. Motion passed 4-0.

Mayor Jones gave a history of the communication efforts made by the city regarding the project.
Vicki Sodawasser, 2101 68th St. spoke in opposition to the project.
Raymond Steele, 1917 68th St. spoke in opposition to the project.

Motion by Threase Harms to Close Public Hearing at 6:36 PM. Seconded by Michael Libbie. Motion passed 4-0.

B. Consideration of Bids - 68th Street Reconstruction Improvements Project

Motion by Threase Harms to Approve the Bid from All-Star Concrete. Seconded by Michael Libbie. Motion passed 4-0.

5. **Public Forum:**

None.

6. **Consent Agenda:**

Motion by Threase Harms to Approve the Consent Agenda Items A-H less item G. Seconded by Susan Skeries. Motion passed 4-0.
Motion by Threase Harms to Approve Item G reappointing David Ferree to the Planning and

Zoning Commission. Seconded by Susan Skeries. Motion passed 4-0.

A. Approve Minutes of the Regular Council Meeting on February 6, 2023

B. Approve Payment of Claims

C. Approve Financial Reports

D. Approve Liquor License Renewal - The Ridgemont - 7400-7460 Hickman Road

E. Approve Liquor License Renewal - Puerto Rico Restaurant - 6611 University Avenue

F. Approve Re-appointment of John Villotti to the Board of Adjustment

G. Approve Reappointment of David Ferree and Joe McConville to the Planning and Zoning Commission

H. Approve Resolution No. 2023-12 - A Resolution to Set a Public Hearing on FY 2024-2034 CIP

7. **New Business:**

A. Consideration of Interim Police Chief Contract

Motion by Threase Harms to Approve the Interim Police Chief Contract with Travis Ouverson. Seconded by Michael Libbie. Motion passed 4-0.

B. Consideration of Snow Plow Truck Purchases

Motion by Susan Skeries to table Consideration of Snow Plow Truck Purchases until the March 20th council meeting with the Public Works Committee meeting in the meantime and any questions from council to be presented to the public works committee in writing as soon possible. Seconded by Threase Harms. Motion passed 4-0.

C. Consideration of Resolution No. 2023-13 - A Resolution Authorizing the Execution of an Agreement between the City of Windsor Heights and the City of West Des Moines for Street Sweeping Services

Motion by Threase Harms to Approve Resolution No. 2023-13 - A Resolution Authorizing the Execution of an Agreement between the City of Windsor Heights and the City of West Des Moines for Street Sweeping Services. Seconded by Susan Skeries. Motion passed 4-0.

D. Discuss Spring Cleanup Day and City Wide Garage Sales

Council discussed spring cleanup day and the city wide garage sale dates.

E. Review FY 23-24 Budget

Council reviewed the FY 23-24 Budget.

8. **Reports:**

A. Mayor, Council Reports and Committee Updates, and Administration Reports: Given

i Mayor's Report

ii January Fire Department Report

9. **Adjourn**

Motion by Threase Harms to Adjourn the Meeting at 6:39 PM. Seconded by Susan Skeries. Motion passed 4-0.

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Mike Jones, Mayor

_____

Travis Cooke, City Clerk

STAFF REPORT
CITY COUNCIL
March 6, 2023

TO: CITY COUNCIL

FROM: Travis Cooke, City Clerk

SUBJECT: Approve Minutes of the Council Work Session on February 23, 2023

GENERAL INFORMATION

SUMMARY

ATTACHMENTS

1. 2.23.22 Council Work Session Minutes

City of Windsor Heights Regular Business Meeting Minutes
Thursday, February 23, 2023 - 6:00 PM
WINDSOR HEIGHTS COUNCIL CHAMBERS - 1133 66th ST

1. **Call to Order/Roll Call**

   Mayor Jones called the meeting to order at 6:05 PM. Council members present: Susan Skeries, Michael Libbie, Lauren Campbell, and Threase Harms. Absent: Joseph Jones. Staff present: City Clerk Travis Cooke.

2. **Strategic Goal Setting Session**

   The council discussed the next steps in creating a strategic vision for the City with Cassandra Halls and Scott Raecker.

3. **Adjourn**

   Motion by Michael Libbie to adjourn the meeting at 7:05. Seconded by Susan Skeries. Motion passed 4-0.

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Mike Jones, Mayor

_____
Travis Cooke, City Clerk

STAFF REPORT
CITY COUNCIL
March 6, 2023

TO: CITY COUNCIL

FROM: Rachelle Swisher, Finance Director - Interim City Administrator

SUBJECT: Approve Payment of Claims

GENERAL INFORMATION

SUMMARY

ATTACHMENTS
1. CLAIMS REPORT

VENDOR NAME	REFERENCE	AMOUNT	VENDOR TOTAL	CHECK#	CHECK DATE
ADVENTURE LIGHTING	BULBS FOR CEC		101.00	55022	3/02/23
AFLAC WORLD WIDE HEADQUARTERS	AFLAC ACC-PRETX		508.52	4029	2/17/23
AMAZON CAPITAL SERVICES	BATTERY JUMPSTART PACKS		209.59	55023	3/02/23
AMERITAS LIFE INS. CORP.	VISION INS		269.72	4027	2/17/23
AUREON IT	OFFICE 365 LICENSE		2,099.75	55024	3/02/23
BAKER ELECTRIC INC.	UTILITY LOCATES		3,420.77	55025	3/02/23
BOUND TREE MEDICAL LLC	MEDICAL SUPPLIES		255.70	55026	3/02/23
CITY OF URBANDALE	HICKMAN TRAFFIC SIGNALS		153.08	55027	3/02/23
CUSTOM AWARDS	NAME PLATE		25.50	55028	3/02/23
DES MOINES PUBLIC LIBRARY	FY23 3RD QTR PYMT		15,913.50	55029	3/02/23
DIAMOND OIL CO.	FUEL		1,074.06	55030	3/02/23
DIAMOND VOGEL, INC	PAINT SUPPLIES		37.88	55031	3/02/23
ELECTRICAL ENG. & EQ.	LIGHT BULBS		163.65	55032	3/02/23
FEDERAL TAX DEPOSIT	FED/FICA TAX		20,018.28	4028	2/17/23
FELD EQUIP. CO. INC., ED M.	SCBA HYDROTESTING		1,120.00	55033	3/02/23
FUN FLICKS	6 MOVIE RENTALS		3,774.60	55034	3/02/23
GREATER D.M. PARTNERSHIP	SKERIES DC TRIP		2,500.00	55035	3/02/23
GRIMES ASPHALT & PAVING	STREET MAINTENANCE SUPPLIES		316.80	55036	3/02/23
ICMA RETIREMENT TRUST	ICMA	628.95		4025	2/17/23
ICMA RETIREMENT TRUST	CITY CONTRIBUTION	1,340.48	1,969.43	4031	2/24/23
INTERSTATE ALL BATTERY	VPS BATTERIES		258.00	55037	3/02/23
DEPT OF HUMAN SERVICES	MARCH GEMT PAYMENTS		4,541.34	55038	3/02/23
IPERS	PROTECT IPERS		27,301.88	4024	2/17/23
ISOLVED BENEFIT SERVICES	FLEX - BENEFITS		580.77	4030	2/17/23
KARL CHEVROLET	A553 SCENE LIGHT REPAIR		325.00	55039	3/02/23
KELTEK INCORPORATED	NEW VEHICLE EQUIP		6,757.10	55040	3/02/23
KENNY & GYL COMPANY	VEHICLE WRAPS		6,080.00	55041	3/02/23
LAUREN CAMPBELL PHOTOGRAPHY	ROBERTS HEADSHOTS		75.00	55042	3/02/23
MERCY ONE CLIVE PHARMACY	MEDICAL SUPPLES		32.73	55043	3/02/23
MIDAMERICAN ENERGY	1133 66TH ST	1,292.40		4035	3/02/23
MIDAMERICAN ENERGY	1145 66TH ST	368.30		4036	3/02/23
MIDAMERICAN ENERGY	6900 SCHOOL ST STAGE	126.26		4037	3/02/23
MIDAMERICAN ENERGY	6900 SCHOOL ST CEC	758.21		4038	3/02/23
MIDAMERICAN ENERGY	6900 SCHOOL ST	22.96		4039	3/02/23
MIDAMERICAN ENERGY	6800 SCHOOL ST	655.12		4040	3/02/23
MIDAMERICAN ENERGY	6800 SCHOOL ST	207.76		4041	3/02/23
MIDAMERICAN ENERGY	7001 UNIV AVE	26.18		4042	3/02/23
MIDAMERICAN ENERGY	6300 UNIV AVE	29.34		4043	3/02/23
MIDAMERICAN ENERGY	7116 UNIV AVE	53.74		4044	3/02/23
MIDAMERICAN ENERGY	801 73RD ST	41.43		4045	3/02/23
MIDAMERICAN ENERGY	STREET LIGHTS	3,262.74		4046	3/02/23
MIDAMERICAN ENERGY	2227 63RD	28.63		4047	3/02/23
MIDAMERICAN ENERGY	6440 HICKMAN RD	69.29		4048	3/02/23
MIDAMERICAN ENERGY	1443 73RD ST	10.00		4049	3/02/23
MIDAMERICAN ENERGY	1804 73RD ST	10.00		4050	3/02/23
MIDAMERICAN ENERGY	6410 HICKMAN RD	27.49		4051	3/02/23
MIDAMERICAN ENERGY	7290 UNIV AVE	26.56		4052	3/02/23
MIDAMERICAN ENERGY	6540 UNIV AVE	157.80		4053	3/02/23
MIDAMERICAN ENERGY	6739 UNIV AVE	113.69		4054	3/02/23
MIDAMERICAN ENERGY	1601 73RD ST	14.47		4055	3/02/23
MIDAMERICAN ENERGY	1140 73RD ST	29.73		4056	3/02/23
MIDAMERICAN ENERGY	951 73RD ST	19.33	7,351.43	4057	3/02/23
MILLER, LYNZIE	CLOTHING ALLOWANCE		195.42	55044	3/02/23
NAPA AUTO PARTS	TRUCK #1 BRAKE REPAIRS		219.98	55045	3/02/23

VENDOR NAME	REFERENCE	AMOUNT	VENDOR TOTAL	CHECK#	CHECK DATE
NORRIS, CHAD	CLOTHING ALLOWANCE		149.80	55046	3/02/23
O'HALLORAN INTERNATIONAL	TRUCK #6 REPAIRS		8,345.02	55047	3/02/23
O'REILLY AUTO PARTS	A553 EXHAUST PIPE		54.13	55048	3/02/23
POLK COUNTY EMERG MGMT	EMERG MGMT PYMTS		2,626.00	55049	3/02/23
POLK COUNTY TREASURER	OWI INVEST CASE#22-00084		150.00	55050	3/02/23
PREMIER AUTOMOTIVE	U557 OIL CHANGE		127.60	55051	3/02/23
QUALITY PEST CONTROL, INC	PEST CONTROL		35.00	55052	3/02/23
RANGEMASTERS TRAINING CTR	NORRIS VEST AND CARRIER		1,205.38	55053	3/02/23
ROY'S MOTOR SERVICE	7227 TOW		100.00	55054	3/02/23
SNAP-ON MARK STUCHEL	BUTANE TORCH		83.50	55055	3/02/23
SPOTFREE CAR WASH	PD CAR WASHES		70.55	55056	3/02/23
STIVERS FORD	7227 REPAIRS		616.84	55057	3/02/23
TRANSUNION RISK & ALTERNATIVE	MONTHLY CHARGES		150.00	55058	3/02/23
TREASURER STATE OF IOWA	STATE TAXES		6,803.45	4026	2/17/23
TRUCK EQUIPMENT INC.	TRUCK #6 PLOW REPAIR		802.50	55059	3/02/23
VENDNOVATION LLC	MEDICATION MACHINE SOFTWARE		1,200.00	55060	3/02/23
VERIZON WIRELESS	CELL PHONES		381.09	4058	3/02/23
ZWC CONDOMINIUM ASSOC	TAXES		370.36	55061	3/02/23
			==========		
	Accounts Payable Total		130,921.70		

Payroll Checks

001	GENERAL		51,878.92
110	ROAD USE TAX		7,408.56
740	STORM WATER		2,039.98

	Total Paid On: 2/17/23		61,327.46
			==========
	Total Payroll Paid		61,327.46
			==========
	Report Total		192,249.16
			==========

CLAIMS REPORT

CLAIMS FUND SUMMARY

Payroll Checks: 2/15/2023- 3/02/2023

FUND	NAME	AMOUNT
001	GENERAL	138,924.33
110	ROAD USE TAX	36,126.72
112	EMPLOYEE BENEFITS	1,340.48
350	CAPITAL EQUIPMENT FUND	12,899.26
610	SEWER	40.01
740	STORM WATER	2,918.36
	TOTAL FUNDS	192,249.16

STAFF REPORT
CITY COUNCIL
March 6, 2023

TO: CITY COUNCIL

FROM: Travis Cooke, City Clerk

SUBJECT: Approve Retail Liquor License - Hy-Vee - 7101 University Ave

GENERAL INFORMATION

SUMMARY

ATTACHMENTS
None

STAFF REPORT
CITY COUNCIL
March 6, 2023

TO: CITY COUNCIL

FROM: Justin Ernst, City Engineer

SUBJECT: Approve Resolution No. 2023-15 - A Resolution Setting Time and Place for a Public Hearing on Proposed Contract Documents and Estimated Costs for the Colby Park 2023 Phase 1 Improvements Project

GENERAL INFORMATION

SUMMARY

ATTACHMENTS

1. Resolution No. 2023-15- A Resolution Setting Time and Place for a Public Hearing on Proposed Contract Documents and Estimated Costs for the Colby Park
2. Colby Park Project Manual and Plans

RESOLUTION NO. 2023-15

A RESOLUTION SETTING TIME AND PLACE FOR A PUBLIC HEARING ON PROPOSED CONTRACT DOCUMENTS AND ESTIMATED COSTS FOR THE COLBY PARK 2023 PHASE 1 IMPROVEMENTS PROJECT

WHEREAS, the City Council of the City of Windsor Heights is considering improvements to Colby Park; and

WHEREAS, the Code of Iowa requires cities to hold a public hearing on proposed contract documents and estimated cost for repair or improvements to public infrastructure.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Windsor Heights, Iowa, as follows:

Section 1. This Council will meet on the 3rd Day of April, 2023 at 6:00 p.m. at the Council Chambers, 1133 66th St. in the city at which time and place it will hold a public hearing on the proposed contract documents and estimated cost for the Colby Park 2023 Phase I Improvements Project; and

Section 2. The City Clerk shall post notice of said hearing, which posting shall be at the three public places in the City which have been permanently designated by ordinance, website, and social media platforms, and published in the Des Moines Register.

Passed and approved this 6th day of March 2023.

_____
Mike Jones, Mayor

ATTEST:

_____
Travis Cooke, City Clerk

PROJECT MANUAL

Colby Park, 2023 Phase 1 Improvements

City of Windsor Heights

Windsor Heights, IA

BOLTON & MENK

Real People. Real Solutions.

SECTION 00005 – CERTIFICATION

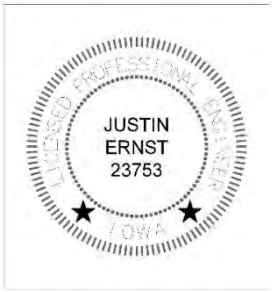
PROJECT MANUAL

for

Colby Park, 2023 Phase 1 Improvements

City of Windsor Heights

Windsor Heights, IA



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.

_____ Date: _____

Justin Ernst
License No. 23753
My renewal date is December 31, 2023
Pages or sheets covered by this seal:

ALL SHEETS

SECTION 00010 - TABLE OF CONTENTS

Colby Park, 2023 Phase 1 Improvements
City of Windsor Heights

CONTRACT DOCUMENTS:

PROJECT MANUAL:

Introductory Information, Bidding Requirements, Contract Forms and Conditions of Contract

Technical Specifications

DRAWINGS (UNDER SEPARATE COVER):

44 sheets numbered A.01 through E.50, inclusive, dated March 7, 2023, and with each sheet bearing the following general title:

Colby Park, 2023 Phase 1 Improvements
City of Windsor Heights

This project is based on
SUDAS STANDARD SPECIFICATIONS, 2023 EDITION
unless modified herein.

******END OF SECTION******

NOTICE TO BIDDERS

Colby Park, 2023 Phase 1 Improvements
City of Windsor Heights
Windsor Heights, IA

Time and Place for Filing Sealed Proposals. Sealed bids for the work comprising the repair & improvement as stated below must be filed before 10:00 A.M. on March 28, 2023, in the office of the City Clerk, 1145 66th Street, Suite 1, Windsor Heights, IA.

Time and Place Sealed Proposals Will be Opened and Considered. Sealed proposals will be opened and bids tabulated at 10:00 A.M. on March 28, 2023, in the office of the City Clerk, City of Windsor Heights, 1145 66th Street, Suite 1, Windsor Heights, IA for consideration by the City of Windsor Heights at its meeting at 6:00 P.M. on April 3, 2023. The City of Windsor Heights reserves the right to reject any and all bids.

Time for Commencement and Completion of Work. Work on the improvement shall commence upon approval of the contract by the Council and as stated in the Notice to Proceed. All work under the Contract must be substantially complete on or before September 30, 2023. Damages in the amount of $500.00 per day will be assessed for each day the work remains incomplete.

Bid Security. Each bidder shall accompany its bid with bid security, as defined in Section 468.35 of the Iowa Code in the amount equal to 5 percent of the total amount of the bid.

Contract Documents. Copies of the project documents are available for a price of $ per set. This fee is refundable, provided the plans and specifications are returned complete and in good usable condition, and they are returned within fourteen (14) calendar days after the award of the project. Please make your check payable to Bolton & Menk, Inc. and send it to 430 East Grand Ave., Suite 101, Des Moines, IA 50309. Complete digital project bidding documents are available at www.bolton-menk.com or www.questcdn.com. You may view the digital plan documents for free by entering Quest project # 8414025 on the website's Project Search page. Documents may be downloaded for $0.00. Please contact QuestCDN.com at 952-233-1632 or info@questcdn.com for assistance in free membership registration, viewing, downloading, and working with this digital project information.

Preference of Products and Labor. Preference shall be given to domestic construction materials by the contractor, subcontractors, material, workforce, and suppliers in performance of the contract By virtue of statutory authority, further preference will be given to products and provisions grown and coal produced within the State of Iowa, and to Iowa domestic labor, to the extent lawfully required under Iowa statutes. Failure to submit a fully completed Bidder Status Form with the bid may result in the bid being deemed nonresponsive and rejected.

Sales Tax Exemption Certificates. The bidder shall not include sales tax in the bid. The City of Windsor Heights will distribute tax exemption certificates and authorization letters to the Contractor and all subcontractors who are identified. The Contractor and subcontractor may make copies of the tax exemption certificates and provide a copy to each supplier providing construction materials. These tax exemption certificates and authorization letters are applicable only for this specific project under the Contract.

PROJECT DESCRIPTION: Improvements to Colby Park in Windsor Heights including the demolition of an existing 1,500 SY tennis court and lighting, construction of approximately 1,250 SY of new post-tensioned concrete tennis and pickleball courts and associated 575 LF of chainlink fencing, sport court lighting and electrical, and site furnishings. Project also includes 80 LF of water main realignment, 800 SY of parking lot paving removal and new paving (approx. 150 SY of HMA, 900 SY of 8" PCC, 500 SY of 5" PCC) for parking spaces and sidewalks throughout. Includes restoration and other miscellaneous improvements throughout

This Notice is given by authority of the City of Windsor Heights

_____

Travis Cooke

City Clerk

NOTICE OF PUBLIC HEARING

Colby Park, 2023 Phase 1 Improvements
City of Windsor Heights
Windsor Heights, IA

Public Hearing on Proposed Contract Documents and Estimated Costs for Repair or Improvement. A public hearing will be held by the City of Windsor Heights on the proposed contract documents (plans, specifications and form of contract) and estimated cost for the improvement at its meeting at 6:00 P.M. on April 3, 2023, at 1145 66th Street, Suite 1, Windsor Heights, IA 50324.

PROJECT DESCRIPTION: Improvements to Colby Park in Windsor Heights including the demolition of an existing 1,500 SY tennis court and lighting, construction of approximately 1,250 SY of new post-tensioned concrete tennis and pickleball courts and associated 575 LF of chainlink fencing, sport court lighting and electrical, and site furnishings. Project also includes 80 LF of water main realignment, 800 SY of parking lot paving removal and new paving (approx. 150 SY of HMA, 900 SY of 8" PCC, 500 SY of 5" PCC) for parking spaces and sidewalks throughout. Includes restoration and other miscellaneous improvements throughout

At said hearing, the City Council will consider the plans, specifications, proposed form of contract, and estimated total cost for the project, the same now being on file in the office of the City Clerk, reference to which is made for a more detailed and complete description of the proposed improvements, and at said time and place the said City Council will also receive and consider any objections to said plans, specifications, estimate of cost, and form of contract made by any interested party.

INSTRUCTIONS TO BIDDERS

Colby Park, 2023 Phase 1 Improvements
City of Windsor Heights
Windsor Heights, IA

The work comprising the above referenced project shall be constructed in accordance with the SUDAS Standard Specifications, 2017 Edition and as further modified by the supplemental specifications and special provisions included in the contract documents. The terms used in the contract version of the documents are defined in said Standard Specifications. Before submitting a bid, please review the requirements of Division One, General Provisions and Covenants. Please be certain that all documents have been completed properly as failure to complete and sign all documents and to comply with the requirements listed below can cause a submitted bid not to be read.

ARTICLE 1 - BID SECURITY

1.01 The bid security must be in the minimum amount of 5% of the total bid amount including all add alternates (do not deduct the amount of deduct alternates). Bid security shall be in the form of a cashier's check, a certified check; or drawn on a FDIC insured bank in Iowa; or a certified check drawn on a FDIC insured bank chartered under the laws of the United States; or a certified share draft drawn on a credit union in Iowa or chartered under the laws of the United States; or a bid bond executed by a corporation authorized to contract as a surety in Iowa or satisfactory to the City of Windsor Heights, hereinafter called the "Jurisdiction".

1.02 The bid bond must be submitted on the enclosed Bid Bond form as no other bid bond forms are acceptable. All signatures on the bid bond must be original signatures in ink; electronic, copies, or facsimile (fax) of any signature on the bid bond is not acceptable.

1.03 Bid security other than said bid bond shall be in accordance with Chapter 26 of the Iowa Code.

ARTICLE 2 - SUBMISSION OF THE PROPOSAL AND IDENTITY OF BIDDER

2.01 The proposal shall be sealed in an envelope, properly identified as the Proposal with the project title and the name and address of the bidder. The bid security shall be sealed in a separate envelope identified as the "Bid Security" and attached to the outside of the bid proposal envelope. The Proposal and Bid security shall be deposited with the Jurisdiction at or before the time and at the place provided in the Notice to Bidders. It is the sole responsibility of the bidder to see that its proposal is delivered to the Jurisdiction prior to the time for opening bids along with the appropriate bid security. Any proposal received after the scheduled time for the receiving of proposals will be returned to the bidder unopened and will not be considered.

2.02 The following documents shall be completed, signed and returned in the Proposal envelope. The bid cannot be read if any of these documents are omitted from the Proposal envelope.

A. PROPOSAL – Complete each of the following parts:

- Part B – Acknowledgment of Addenda, if any have been issued;
- Part C – Bid Items, Quantities and Prices
- Part F – Additional Requirements;
- Part G – Identity of Bidder;

2.03 Sign the proposal. The signature on the proposal and all proposal attachments must be an original signature in ink signed by the same individual who is the Company Owner or an authorized Officer of the Company; copies or facsimile of any signature will not be accepted.

2.04 Documents must be submitted as printed. No alterations, additions, or deletions are permitted. If the Bidder notes a requirement in the contract documents which the Bidder believes will require a conditioned or unsolicited alternate bid, the Bidder must immediately notify the Engineer in writing. The Engineer will issue any necessary interpretation by an addendum.

2.05 Division 1 - General Provisions and Covenants of the 2017 SUDAS Standard Specifications is modified as follows:

A. Section 1020.1.09B, Unit Price Attachment.

A computer generated unit price attachment may be submitted by the Bidder as specified by this Section.

ARTICLE 3 - PROSECUTION AND PROGRESS OF THE WORK

3.01 The work is located in the City of Windsor Heights.

Work on the improvement shall commence upon approval of the contract by the Council and as stated in the Notice to Proceed. All work under the Contract must be substantially complete on or before September 30, 2023. Damages in the amount of $500.00 per day will be assessed for each day the work remains incomplete.

3.02 Community Events.

3.03 Each successful bidder will be required to furnish a corporate surety bond in an amount equal to 100% of its contract price. Said bond shall be issued by a responsible surety approved by City of Windsor Heights and shall guarantee the faithful performance of the contract, the terms and conditions therein contained, the prompt payment of all material and labor, protect and save harmless City of Windsor Heights from claims and damages of any kind caused by the operations of the contract, and shall also guarantee the maintenance of the improvement caused by failures in materials and construction for a period of four years from and after acceptance of the work.

3.04 The City of Windsor Heights, in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42U.S.C. 2000d to 2000d-4 and title 49 Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively ensure that with any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.

ARTICLE 4 - PREFERENCE OF PRODUCTS AND LABOR

4.01 In accordance with Iowa statutes, a resident bidder shall be allowed preference against a nonresident bidder from a state or foreign country provided that state or foreign county gives or requires any preference to bidders from that state or foreign country. This includes, but is not limited to any preference to bidders, the imposition of any type of labor force preference, or any other form of preferential treatment to bidders or laborers from that state or foreign country. The preference allowed shall be equal to the preference given or required by the state of foreign county in which the nonresident bidder is a resident. In the instance of a resident labor force preference, a nonresident bidder shall apply the same resident labor force preference to a public improvement in this state as would be required in the construction of a public improvement by the state or foreign country in which the nonresident bidder is a resident.

ARTICLE 5 - TAXES

5.01 The City will issue a sales tax exemption certificate and authorization letters to the Contractor and all subcontractors for all materials purchased on the project. Tax exemption certificates are applicable only for the specific project for which the tax exemption certificate is issued.

5.02 The Contractor shall provide a listing to the City identifying all appropriate subcontractors qualified for use of the tax exemption certificate. The Contractor and subcontractors may make copies of the certificate and provide to each supplier providing construction material.

5.03 Income Tax:

A. Successful Bidder is subject to payment of Iowa income tax on income from this work in amounts prescribed by law.

B. If successful bidder is a non-Iowa partnership, individual or association, Bidder shall furnish evidence prior to execution of contract that bond or securities have been posted with the Iowa Department of Revenue in the amount required by law.

******END OF SECTION******

SECTION 00410 - PROPOSAL

Colby Park, 2023 Phase 1 Improvements
City of Windsor Heights
Windsor Heights, IA

PROPOSAL: PART A – SCOPE

The City of Windsor Heights, hereinafter called the "Jurisdiction", has need of a qualified contractor to complete the work comprising the below referenced repair or improvement. The undersigned Bidder hereby proposes to complete the work comprising the below referenced repair or improvement as specified in the contract documents, which are officially on file with the Jurisdiction, in the office of the Mayor, at the prices hereinafter provided in Part C of the Proposal, for the following described improvements:

PROJECT DESCRIPTION: Improvements to Colby Park in Windsor Heights including the demolition of an existing 1,500 SY tennis court and lighting, construction of approximately 1,250 SY of new post-tensioned concrete tennis and pickleball courts and associated 575 LF of chainlink fencing, sport court lighting and electrical, and site furnishings. Project also includes 80 LF of water main realignment, 800 SY of parking lot paving removal and new paving (approx. 150 SY of HMA, 900 SY of 8" PCC, 500 SY of 5" PCC) for parking spaces and sidewalks throughout. Includes restoration and other miscellaneous improvements throughout

PROPOSAL: PART B – ACKNOWLEDGMENT OF ADDENDA

The Bidder hereby acknowledges that all addenda become a part of the contract documents when issued and that each such addendum has been received and utilized in the preparation of this bid. The Bidder hereby acknowledges receipt of the following addenda by inserting the number of each addendum in the blanks below:

ADDENDUM NUMBER _____ ADDENDUM NUMBER _____

ADDENDUM NUMBER _____ ADDENDUM NUMBER _____

and certifies that said addenda were utilized in the preparation of this bid.

PROPOSAL: PART C – BID ITEMS AND QUANTITIES

UNIT BID PRICE CONTRACTS: The Bidder must provide the Unit Bid Price, the Total Bid Price, any Alternate Prices, and the Total Construction Costs on the Proposal Attachment: Part C – Bid Items and Quantities. In case of discrepancy, the Unit Bid Price governs. The quantities shown on the Proposal Attachment: Part C – Bid Items and Quantities are approximate only, but are considered sufficiently adequate for the purpose of comparing bids. The Total Construction Cost shall be used only for the comparison of bids. The jurisdiction shall only use the Total Construction Cost for determining the sufficiency of the bid security.

BASE BID CONTRACTS: The Bidder must provide any Bid Prices, any Alternate Prices, and the Total of the Base Bid plus any Add-Alternates on the Proposal Attachment: Part C – Bid Items and Quantities. The Jurisdiction shall only use the Total Construction Cost for comparison of bids. The Total Construction Cost, including any Add-Alternates shall be used for determining the sufficiency of the bid security.

PROPOSAL: PART D – GENERAL

The Bidder hereby acknowledges that the Jurisdiction, in advertising for public bids for this project reserves the right to:

1. Reject any or all bids. Award of the contract, if any, to be to the lowest responsible, responsive bidder; and
2. Reject any or all alternates in determining the items to be included in the contract. Designation of the lowest responsible, responsive bidder to be based on comparison of the total bid only, not including any alternates; and
3. Make such alterations in the contract documents or in the proposal quantities as it determines necessary in accordance with the contract documents after execution of the contract. Such alterations shall not be considered a waiver of any conditions of the contract documents, and shall not invalidate any of the provisions thereof; and

The Bidder hereby agrees to:

1. Enter into a contract, if this proposal is selected, in the form approved by the Jurisdiction, provide proof of registration with the Iowa Division of Labor in accordance with Chapter 91C of the Iowa Code, and furnish a performance, maintenance, and payment bond; and
2. Forfeit bid security, not as a penalty but as liquidated damages, upon failure to enter into such contract and/or to furnish said bond; and
3. Commence the work upon written Notice to Proceed; and
4. Substantially complete the work on or before September 30, 2023: and
5. Pay liquidated damages for noncompliance with said completion provisions at the rate of Five hundred dollars ($500.00) for each calendar day thereafter that the work remains incomplete.

PROPOSAL: PART E – NON-COLLUSION AFFIDAVIT

The Bidder hereby certifies:

1. That this proposal is not affected by, contingent on, or dependent on any other proposal submitted for any improvement with the Jurisdiction; and
2. That no individual employed by the Bidder has employed any person to solicit or procure the work on this project, nor will any employee of the Bidder make any payment or agreement for payment of any compensation in connection with the procurement of this project; and
3. That no part of the bid price received by the Bidder was or will be paid to any person, corporation, firm, association, or other organization for soliciting the bid, other than the payment of their normal compensation to persons regularly employed by the Bidder whose services in connection with the construction of the project were in the regular course of their duties for the Bidder; and
4. That this proposal is genuine and not collusive or sham; that the Bidder has not colluded, conspired, connived, or agreed, directly or indirectly, with any bidder or person, to submit a sham bid or to refrain from bidding; and
5. That the bid has not in any manner, directly or indirectly, sought, by agreement or collusion, or communication or conference, with any person, to fix the bid price of the Bidder or of any other bidder; and
6. That all statements in this proposal are true; and
7. That the individual(s) executing this proposal have the authority to execute this proposal on behalf of the Bidder.

PROPOSAL: PART F – ADDITIONAL REQUIREMENTS

The Bidder hereby agrees to comply with the additional requirements listed below which are included in this proposal and identified as proposal attachments:

ITEM NO.	DESCRIPTION OF ATTACHMENT
1.	None

PROPOSAL: PART G - IDENTITY OF BIDDER

The Bidder shall indicate whether the bid is submitted by a/an:

□ Individual,
Sole Proprietorship

□ Partnership

□ Corporation

□ Limited Liability Company

□ Joint-venture; all parties must join-in and execute all documents

□ Other

The bidder shall enter its Public Registration Number __ __ __ __ __ - __ __ issued by the Iowa Commissioner of Labor Pursuant Section 91C.5 of the Iowa Code.

Failure to provide said Registration Number shall result in the bid being read under advisement. A contract will not be executed until the Contractor is registered.

_____
Bidder

_____
Signature

By _____
Name (Print/Type)

_____
Title

_____
Street Address

_____
City, State, Zip Code

_____
Telephone Number

Type or print the name and title of the company's owner, president, CEO, etc. if a different person than entered above

_____
Name

_____
Title

NOTE: The signature on this proposal must be an original signature in ink; copies, facsimiles, or electronic signatures will not be accepted.

All bidders must submit the following completed form to the governmental body requesting bids per 875 Iowa Administrative Code Chapter 156.

Bidder Status Form

To be completed by all bidders — Part A

Please answer "Yes" or "No" for each of the following:

☐ Yes ☐ No My company is authorized to transact business in Iowa.
(To help you determine if your company is authorized, please review the worksheet on the next page).

☐ Yes ☐ No My company has an office to transact business in Iowa.

☐ Yes ☐ No My company's office in Iowa is suitable for more than receiving mail, telephone calls, and e-mail.

☐ Yes ☐ No My company has been conducting business in Iowa for at least 3 years prior to the first request for bids on this project.

☐ Yes ☐ No My company is not a subsidiary of another business entity or my company is a subsidiary of another business entity that would qualify as a resident bidder in Iowa.

If you answered "Yes" for each question above, your company qualifies as a resident bidder. Please complete Parts B and D of this form.

If you answered "No" to one or more questions above, your company is a non-resident bidder. Please complete Parts C and D of this form.

To be completed by resident bidders — Part B

My company has maintained offices in Iowa during the past 3 years at the following addresses:

Dates: _____ to _____ Address: _____

(mm/dd/yyy) City, State, Zip: _____

Dates: _____ to _____ Address: _____

(mm/dd/yyy) City, State, Zip: _____

Dates: _____ to _____ Address: _____

(mm/dd/yyy) City, State, Zip: _____

You may attach additional sheet(s) if needed.

To be completed by non-resident bidders — Part C

1. Name of home state or foreign country reported to the Iowa Secretary of State: _____

2. Does your company's home state or foreign country offer preferences to bidders who are residents? ☐ Yes ☐ No

3. If you answered "Yes" to question 2, identify each preference offered by your company's home state or foreign country and the appropriate legal citation.

_____

_____

You may attach additional sheet(s) if needed.

To be completed by all bidders — Part D

I certify that the statements made on this document are true and complete to the best of my knowledge and I know that my failure to provide accurate and truthful information may be reason to reject my bid.

Firm Name: _____

Signature: _____ Date: _____

WORKSHEET: AUTHORIZATION TO TRANSACT BUSINESS

This worksheet may be used to help complete Part A of the Resident Bidder Status form. If at least one of the following describes your business, you are authorized to transact business in Iowa.

☐ Yes ☐ No My business is currently registered as a contractor with the Iowa Division of Labor.

☐ Yes ☐ No My business is a sole proprietorship and I am an Iowa resident for Iowa income tax purposes.

☐ Yes ☐ No My business is a general partnership or joint venture. More than 50 percent of the general partners or joint venture parties are residents of Iowa for Iowa income tax purposes

☐ Yes ☐ No My business is an active corporation with the Iowa Secretary of State and has paid all fees required by the Secretary of State, has filed its most recent biennial report, and has not filed articles of dissolution.

☐ Yes ☐ No My business is a corporation whose articles of incorporation are filed in a state other than Iowa, the corporation has received a certificate of authority from the Iowa Secretary of State, has filed its most recent biennial report with the Secretary of State, and has neither received a certificate of withdrawal from the Secretary of state nor had its authority revoked.

☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in this state and the statement has not been canceled.

☐ Yes ☐ No My business is a limited liability partnership which has filed a statement of qualification in a state other than Iowa, has filed a statement of foreign qualification in Iowa and a statement of cancellation has not been filed.

☐ Yes ☐ No My business is a limited partnership or limited liability limited partnership which has filed a certificate of limited partnership in this state, and has not filed a statement of termination.

☐ Yes ☐ No My business is a limited partnership or a limited liability limited partnership whose certificate of limited partnership is filed in a state other than Iowa, the limited partnership or limited liability limited partnership has received notification from the Iowa Secretary of state that the application for certificate of authority has been approved and no notice of cancellation has been filed by the limited partnership or the limited liability limited partnership.

☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in Iowa and has not filed a statement of termination.

☐ Yes ☐ No My business is a limited liability company whose certificate of organization is filed in a state other than Iowa, has received a certificate of authority to transact business in Iowa and the certificate has not been revoked or canceled.

Colby Park, 2023 Phase 1 Improvements
City of Windsor Heights
Windsor Heights, IA

PROPOSAL ATTACHMENT: PART C – BID ITEMS AND QUANTITIES

This is a UNIT BID PRICE CONTRACT. The bidder must provide the Unit Bid Price, the total Bid Price, and the Total Bid Amount; in case of discrepancy, the Unit Bid Price governs. The Quantities shown on the Proposal Attachment: Part C – Bid Items and quantities are approximate only, but are considered sufficiently adequate for the purpose of comparing bids. The Jurisdiction shall only use the Total Base Bid Amount for comparison of bids

ITEM NO.	DESCRIPTION	UNIT	APPROX. QUANTITY	UNIT PRICE	AMOUNT
1	CLEARING AND GRUBBING	LS	218	$	$
2	TOPSOIL, COMPOST AMENDED	CY	240	$	$
3	EXCAVATION, CLASS 10	CY	710	$	$
4	SUBGRADE PREPARATION	SY	1150	$	$
5	SUBBASE, MODIFIED, 6 IN	SY	1150	$	$
6	STORM SEWER, TRENCHED, RCP, 12 IN	LF	8	$	$
7	REMOVAL OF STORM SEWER, RCP, 12 IN	LF	22	$	$
8	SUBDRAIN, HDPE, 6"	LF	425	$	$
9	SUBDRAIN CLEANOUT, 6"	EA	6	$	$
10	WATER MAIN, TRENCHED, C900 DR18 PVC, RESTRAINED JOINT, 8", WITH TRACER WIRE	LF	149	$	$
11	WATER MAIN, TRENCHED, C900 DR18 PVC, STAB JOINT, 8", WITH TRACER WIRE	LF	74	$	$
12	FITTING, 8"	LB	312	$	$

13	WATER SERVICE PIPE, PEX, 1"	LF	15	$	$
14	WATER MAIN REMOVAL, 8"	LF	10	$	$
15	FLUSHING DEVICE (BLOW OFF), MIN 2 IN DIAMETER, TEMPORARY	EA	1	$	$
16	TAP FEE, 1", WATER SERVICE TAP	EA	1	$	$
17	PREPARE EXCAVATION FOR TAPPING SLEEVE AND VALVE	EA	1	$	$
18	INTAKE, SW-501	EA	1	$	$
19	TAP FEE, 1", REPLACEMENT TAP FOR WATER SERVICE TRANSFER	EA	1	$	$
20	MANHOLE ADJUSTMENT, MAJOR	EA	3	$	$
21	CONNECTION TO EXISTING MANHOLE	EA	1	$	$
22	CONNECTION TO EXISTING STORM PIPE	EA	1	$	$
23	PAVEMENT, PCC, 6 IN	SY	250	$	$
24	PAVEMENT, PCC, 7 IN	SY	955	$	$
25	CURB AND GUTTER, 2 FT, 7 IN	LF	225	$	$
26	REMOVAL OF SIDEWALK	SY	140	$	$
27	SIDEWALK, PCC, 5 IN	SY	560	$	$
28	SIDEWALK, PCC, 6 IN	SY	75	$	$
29	DETECTABLE WARNING	SF	40	$	$
30	PAVEMENT REMOVAL	SY	830	$	$
31	PAVEMENT REMOVAL, TENNIS COURT	SY	1440	$	$

32	CURB AND GUTTER REMOVAL	LF	515	$	$
33	PAINTED PAVEMENT MARKINGS, SOLVENT/WATERBORNE	STA	5.5	$	$
34	PAINTED SYMBOLS AND LEGENDS	EA	2	$	$
35	TEMPORARY TRAFFIC CONTROL	LS	1	$	$
36	HYDRAULIC SEEDING, SEEDING, FERTILIZING, AND MULCHING	LS	1	$	$
37	SOD	SQ	130	$	$
38	DECIDUOUS TREE	EA	9	$	$
39	FILTER SOCK, 8"	LF	1700	$	$
40	INLET PROTECTION DEVICE, DROP IN	EA	3	$	$
41	REMOVAL OF FENCE	LF	460	$	$
42	HANDRAIL, PAINTED	LF	90	$	$
43	MOBILIZATION	LS	1	$	$
44	STEEL BENCH	EA	4	$	$
45	LITTER RECEPTACLE	EA	2	$	$
46	BIKE RACK	EA	4	$	$
47	WATER FOUNTAIN	EA	1	$	$
48	METER PIT	EA	1	$	$
49	BASKETBALL HOOP	EA	2	$	$
50	TENNIS COURT	LS	1	$	$

51	PICKLEBALL COURT	LS	1	$	$
52	TRASH ENCLOSURE	LS	1	$	$
53	SPORT COURT ELECTRICAL	LS	1	$	$
		TOTAL AMOUNT BASE BID:			$

NOTE: IT IS UNDERSTOOD THAT THE ABOVE QUANTITIES ARE ESTIMATED FOR THE PURPOSE OF THIS BID. ALL QUANTITIES ARE SUBJECT TO REVISION BY THE DISTRICT. QUANITY CHANGES WHICH AMOUNT TO TWENTY (20) PERCENT OR LESS OF THE TOTAL BID SHALL NOT AFFECT THE UNIT PRICE BID.

_____

Bidder Name

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BID BOND

Colby Park, 2023 Phase 1 Improvements
City of Windsor Heights
Windsor Heights, IA

KNOW ALL BY THESE PRESENTS:
That we, _____, as Principal, and

_____, as Surety, are held and firmly bound unto, City of Windsor Heights as Obligee, (hereinafter referred to as "the Jurisdiction"), in the penal sum of _____ _____dollars ($_____), lawful money of the United States, for which payment said Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents.

The condition of the above obligation is such that whereas the Principal has submitted to the Jurisdiction a certain proposal, in a separate envelope, and hereby made a part hereof, to enter into a contract in writing, for the following described improvement:

> Improvements to Colby Park in Windsor Heights including the demolition of an existing 1,500 SY tennis court and lighting, construction of approximately 1,250 SY of new post-tensioned concrete tennis and pickleball courts and associated 575 LF of chainlink fencing, sport court lighting and electrical, and site furnishings. Project also includes 80 LF of water main realignment, 800 SY of parking lot paving removal and new paving (approx. 150 SY of HMA, 900 SY of 8" PCC, 500 SY of 5" PCC) for parking spaces and sidewalks throughout. Includes restoration and other miscellaneous improvements throughout

The Surety hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Jurisdiction may accept such bid or execute such Contract; and said Surety does hereby waive notice of any such extension.

In the event that any actions or proceedings are initiated with respect to this Bond, the parties agree that the venue thereof shall be Polk County, State of Iowa. If legal action is required by the Jurisdiction against the Surety or Principal to enforce the provisions of the bond or to collect the monetary obligation incurring to the benefit of the Jurisdiction, the Surety or Principal agrees to pay the Jurisdiction all damages, costs, and attorney fees incurred by enforcing any of the provisions of this Bond. All rights, powers, and remedies of the Jurisdiction hereunder shall be cumulative and not alternative and shall be in addition to all rights, powers, and remedies given to the Jurisdiction, by law. The Jurisdiction may proceed against Surety for any amount guaranteed hereunder whether action is brought against Principal or whether Principal is joined in any such action or actions or not.

NOW, THEREFORE, if said proposal by the Principal be accepted, and the Principal shall enter into a contract with Jurisdiction in accordance with the terms of such proposal, including the provision of insurance and of a bond as may be specified in the contract documents, with good and sufficient surety for the faithful performance of such contract, for the prompt payment of labor and material furnished in the prosecution thereof, and for the maintenance of said improvements as may be required therein, then this obligation shall become null and void; otherwise, the Principal shall pay to the Jurisdiction the full amount of the bid bond, together with court costs, attorney's fees, and any other expense of recovery.

Signed and sealed this _____ day of _____, 20____.

SURETY:	PRINCIPAL:
Surety Company	Bidder
By _____	By _____
Signature Attorney-in-Fact/Officer	Signature
Name of Attorney-in-Fact/Officer	Name (Print/Type)
Company Name	Title
Company Address	Address
City, State, Zip Code	City, State, Zip Code
Company Telephone Number	Telephone Number

NOTE: All signatures on this bid bond must be original signatures in ink; electronic, copies or facsimile of any signature will not be accepted. This bond must be sealed with the Surety's raised, embossing seal or official adhesive seal. The Certificate or Power of Attorney accompanying this bond must be valid on its face and sealed with the Surety's raised, embossing seal or official adhesive seal.

CONTRACT

Colby Park, 2023 Phase 1 Improvements
City of Windsor Heights
Windsor Heights, IA

THIS CONTRACT, made and entered into at _____
this _____ day of _____, by and between the City of Windsor Heights hereinafter called the "Jurisdiction", and _____, hereinafter called the "Contractor".

WITNESSETH:

The Contractor hereby agrees to complete the work comprising the Colby Park, 2023 Phase 1 Improvements as specified in the contract documents, which are officially on file with the Jurisdiction, in the office of the City Clerk, City of Windsor Heights, 1145 66th Street, Suite 1, Windsor Heights, IA, Iowa. This contract includes all such contract documents. All work under this contract shall be constructed in accordance with the SUDAS Standard Specifications, 2017 Edition and as further modified by the supplemental specifications and special provisions included in said contract documents and the Contract Attachment which is attached hereto. The Contractor further agrees to complete the work in strict accordance with said contract documents, and to guarantee the work as required by law for the time required in said contract documents after its acceptance by the Jurisdiction.

This contract is awarded and executed for completion of the work specified in the contract documents for the bid prices shown on the Contract Attachment: Bid Items and Quantities which were proposed by the Contractor in its proposal submitted in accordance with the Notice to Bidders and Notice of Public Hearing for the following described improvements:

> Improvements to Colby Park in Windsor Heights including the demolition of an existing 1,500 SY tennis court and lighting, construction of approximately 1,250 SY of new post-tensioned concrete tennis and pickleball courts and associated 575 LF of chainlink fencing, sport court lighting and electrical, and site furnishings. Project also includes 80 LF of water main realignment, 800 SY of parking lot paving removal and new paving (approx. 150 SY of HMA, 900 SY of 8" PCC, 500 SY of 5" PCC) for parking spaces and sidewalks throughout. Includes restoration and other miscellaneous improvements throughout

The Contractor agrees to perform said work for and in consideration of the Jurisdiction's payment of the bid amount of dollars ($), which amount shall constitute the required amount of the performance, maintenance, and payment bond. The Contractor hereby agrees to commence work as stated in the written Notice to Proceed; and substantially complete the work on or before September 30, 2023; and to pay liquidated damages for noncompliance with said completion provisions at a rate of Five hundred dollars ($500.00) for each calendar day that the work remains incomplete.

IN WITNESS WHEREOF, the Parties hereto have executed this instrument, in triplicate on the date first shown written.

JURISDICTION: City of Windsor Heights

By _____
Mike Jones, Mayor

(Seal)
ATTEST:

_____
Travis Cooke, City Clerk

CONTRACTOR:

_____

By _____
Contractor's Contact Name
Contractor's Title

_____

_____
Street Address

_____
City, State, Zip Code

_____
Telephone

CONTRACTOR PUBLIC REGISTRATION INFORMATION to be Provided By:

1. All Contractors: The Contractor shall enter its Public Registration No. _____ issued by the Iowa Commissioner of Labor pursuant to Section 91C.5 of the Iowa Code.

2. Out-of-State Contractors:

   A. Pursuant to Section 91C.7 of the Iowa Code, an out-of-state contractor, before commencing a contract in excess of five thousand dollars in value in Iowa, shall file a bond with the division of labor services of the department of workforce development. The contractor should contact 515-242-5871 for further information. Prior to contract execution, the Jurisdictional Engineer may forward a copy of this contract to the Iowa Department of Workforce Development as notification of pending construction work. It is the contractor's responsibility to comply with said Section 91C.7 before commencing this work.

   B. Prior to entering into contract, the designated low bidder, if it is a corporation organized under the laws of a state other than Iowa, shall file with the Jurisdictional Engineer a certificate from the Secretary of the State of Iowa showing that it has complied with all the provisions of Chapter 490 of the Code of Iowa, as amended, governing foreign corporations. For further information contact the Iowa Secretary of State Office at 515-281-5204.

Bond No. _____

Name of Surety _____

NOTE: All signatures on this contract must be original signatures in ink; electronic, copies or facsimile of any signature will not be accepted.

CORPORATE ACKNOWLEDGMENT

State of _____)
_____) SS
_____ County)

On this _____ day of _____, 20____, before me, the undersigned, a Notary Public in and for the State of _____, personally appeared _____ and _____ , to me known, who, being by me duly sworn, did say that they are the _____, and _____, respectively, of the corporation executing the foregoing instrument; that (no seal has been procured by) (the seal affixed thereto is the seal of) the corporation; that said instrument was signed (and sealed) on behalf of the corporation by authority of this Board of Directors; that _____ and _____ acknowledged the execution of the instrument to be the voluntary act and deed of the corporation, by it and by them voluntarily executed.

Notary Public in and for the State of _____
My commission expires _____ 20, _____

PARTNERSHIP ACKNOWLEDGMENT

State of _____)
_____) SS
_____ County)

On this ____ day of _____, 20 ___, before me, the undersigned, a Notary Public in and for the State of _____, personally appeared _____ to me personally known, who being by me duly sworn, did say that the person is one of the partners of _____, a partnership, and that the instrument was signed on behalf of the partnership by authority of the partners and the partner acknowledged the execution of the instrument to be the voluntary act and deed of the partnership by it and by the partner voluntarily executed.

Notary Public in and for the State of _____
My commission expires _____ 20, _____

INDIVIDUAL ACKNOWLEDGMENT

State of _____)
_____) SS
_____ County)

On this _____ day of _____, 20____, before me, the undersigned, a Notary Public in and for the State of _____, personally appeared _____ and _____, to me known to be the identical person(s) named in and who executed the foregoing instrument, and acknowledged that (he) (she) (they) executed the instrument as (his) (her) (their) voluntary act and deed.

Notary Public in and for the State of _____
My commission expires _____ 20, _____

LIMITED LIABILITY COMPANY ACKNOWLEDGMENT

State of _____)
_____) SS
_____ County)

On this _____ day of _____, 20____, before me a Notary Public in and for said county, personally appeared _____, to me personally known, who being by me duly sworn did say that person is _____ of said _____, that (the seal affixed to said instrument is the seal of said OR no seal has been procured by the said) _____, and that said instrument was signed and sealed on behalf of the said _____, by authority of its managers and the said _____ acknowledged the execution of said instrument to be the voluntary act and deed of said _____, by it voluntarily executed.

Notary Public in and for the State of _____
My commission expires _____ 20, _____

CONTRACT ATTACHMENT: ITEM 1: GENERAL - NONE

CONTRACT ATTACHMENT: ITEM 2: BID ITEMS AND, QUANTITIES

THIS CONTRACT IS AWARDED AND EXECUTED FOR COMPLETION OF THE WORK SPECIFIED IN THE CONTRACT DOCUMENTS FOR THE BID PRICES TABULATED BELOW AS PROPOSED BY THE CONTRACTOR IN ITS PROPOSAL SUBMITTED IN ACCORDANCE WITH NOTICE TO BIDDERS AND NOTICE OF PUBLIC HEARING. ALL QUANTITIES ARE SUBJECT TO REVISION BY THE JURISDICTION. THE JURISDICTION RESERVES THE RIGHT TO ADJUST QUANTITIES AS NECESSARY TO MAXIMIZE FUNDS BUDGETED FOR THIS PROJECT.

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SURETY BOND NO. _____

PERFORMANCE, PAYMENT AND MAINTENANCE BOND

Colby Park, 2023 Phase 1 Improvements
City of Windsor Heights
Windsor Heights, IA

KNOW ALL BY THESE PRESENTS:

That we, _____, as Principal (hereinafter the "Contractor" or "Principal" and _____, as Surety are held and firmly bound unto _____ , as Obligee (hereinafter referred to as "the Jurisdiction"), and to all persons who may be injured by any breach of any of the conditions of this Bond in the penal sum of _____ DOLLARS ($_____), lawful money of the United States, for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, legal representatives and assigns, jointly or severally, firmly by these presents.

The conditions of the above obligations are such that whereas said Contractor entered into a contract with the Jurisdiction, bearing date the _____ day of _____, _____, hereinafter the "Contract" wherein said Contractor undertakes and agrees to construct the following described improvements:

> Improvements to Colby Park in Windsor Heights including the demolition of an existing 1,500 SY tennis court and lighting, construction of approximately 1,250 SY of new post-tensioned concrete tennis and pickleball courts and associated 575 LF of chainlink fencing, sport court lighting and electrical, and site furnishings. Project also includes 80 LF of water main realignment, 800 SY of parking lot paving removal and new paving (approx. 150 SY of HMA, 900 SY of 8" PCC, 500 SY of 5" PCC) for parking spaces and sidewalks throughout. Includes restoration and other miscellaneous improvements throughout.

and to faithfully perform all the terms and requirements of said Contract within the time therein specified, in a good and workmanlike manner, and in accordance with the Contract Documents. Provided, however, that one year after the date of acceptance as complete of the work under the above referenced Contract, the maintenance portion of this Bond shall continue in force for the stated maintenance period.

It is expressly understood and agreed by the Contractor and Surety in this bond that the following provisions are a part of this Bond and are binding upon said Contractor and Surety, to-wit:

PERFORMANCE: The Contractor shall well and faithfully observe, perform, fulfill, and abide by each and every covenant, condition, and part of said Contract and Contract Documents, by reference made a part hereof, for the above referenced improvements and shall indemnify and save harmless the Jurisdiction from all outlay and expense incurred by the Jurisdiction by reason of the Contractor's default of failure to perform as required. The Contractor shall also be responsible for the default or failure to perform as required under the Contract and Contract Documents by all its subcontractors, suppliers, agents, or employees furnishing materials or providing labor in the performance of the Contract.

PAYMENT: The Contractor and the Surety on this Bond are hereby agreed to pay all just claims submitted by persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the performance of the Contract on account of which this Bond is given, including but not limited to claims for all amounts due for labor, materials, lubricants, oil, gasoline, repairs on machinery, equipment and tools, consumed or used by the Contractor or any subcontractor, wherein the same are not satisfied out of the portion of the contract price which the Jurisdiction is required to retain until completion of the improvement, but the Contractor and Surety shall not be liable to said persons, firms, or corporations unless the claims of said claimants against said portion of the contract price shall have been established as provided by law. The Contractor and Surety hereby bind themselves to the obligations and conditions set forth in Chapter 573, Code of Iowa, which by this reference is made a part hereof as though fully set out herein.

MAINTENANCE: The Contractor and the Surety on this Bond hereby agree, at their own expense:

To remedy any and all defects that may develop in or result from work to be performed under the Contract within the 4-year period from the date of acceptance of the work under the Contract, by reason of defects in workmanship or materials used in construction of said work;

To keep all work in continuous good repair; and

To pay the Jurisdiction's reasonable costs of monitoring and inspection to assure that any defects are remedied and to repay the Jurisdiction all outlay and expense incurred as a result of Contractor's and Surety's failure to remedy any defect as required by this section.

Contractor's and Surety's agreement herein made extends to defects in workmanship or materials not discovered or known to the Jurisdiction at the time such work was accepted.

GENERAL: Every Surety on this Bond shall be deemed and held bound, any contract to the contrary notwithstanding, to the following provisions:

To consent without notice to any extension of time to the Contractor in which to perform the Contract;

To consent without notice to any change in the Contract or Contract Documents, which thereby increases the total contract price and the penal sum of this bond, provided that all such changes do not, in the aggregate, involve an increase of more than twenty percent of the total contract price, and that this bond shall then be released as to such excess increase; and

To consent without notice that this Bond shall remain in full force and effect until the Contract is completed, whether completed within the specified contract period, within an extension thereof, or within a period of time after the contract period has elapsed and the liquidated damage penalty is being charged against the Contractor.

The Contractor and every Surety on the bond shall be deemed and held bound, any contract to the contrary notwithstanding, to the following provisions:

That no provision of this Bond or of any other contract shall be valid which limits to less than five years after the acceptance of the work under the Contract the right to sue on this Bond.

That as used herein, the phrase "all outlay and expense" is not to be limited in any way, but shall include the actual and reasonable costs and expenses incurred by the Jurisdiction including interest, benefits and overhead where applicable. Accordingly, "all outlay and expense" would include but not be limited to all contract or employee expense, all equipment usage or rental, materials, testing, outside experts, attorney's fees (including overhead expenses of the Jurisdiction's staff attorneys), and all costs and expenses of litigation as they are incurred by the Jurisdiction. It is intended the Contractor and Surety will defend and indemnify the Jurisdiction on all claims made against the Jurisdiction on account of Contractor's failure to perform as required in the Contract and Contract Documents, that all agreements and promises set forth in the Contract and Contract Documents, in approved change orders, and in this Bond will be fulfilled, and that the Jurisdiction will be fully indemnified so that it will be put into the position it would have been in had the Contract been performed in the first instance as required.

In the event the Jurisdiction incurs any "outlay and expense" in defending itself with respect to any claim as to which the Contractor or Surety should have provided the defense, or in the enforcement of the promises given by the Contractor in the Contract, Contract Documents, or approved change orders, or in the enforcement of the promises given by the Contractor and Surety in this Bond, the Contractor and Surety agree that they will make the Jurisdiction whole for all such outlay and expense, provided that the Surety's obligation under this bond shall not exceed 125% of the penal sum of this bond.

In the event that any actions or proceedings are initiated with respect to this Bond, the parties agree that the venue thereof shall be Polk County, State of Iowa. If legal action is required by the Jurisdiction to enforce the provisions of this Bond or to collect the monetary obligation incurring to the benefit of the Jurisdiction, the Contractor and the Surety agree, jointly and severally, to pay the Jurisdiction all outlay and expense incurred therefor by the Jurisdiction. All rights, powers, and remedies of the Jurisdiction hereunder shall be cumulative and not alternative and shall be in addition to all rights, powers

and remedies given to the Jurisdiction, by law. The Jurisdiction may proceed against surety for any amount guaranteed hereunder whether action is brought against the Contractor or whether Contractor is joined in any such action(s).

NOW THEREFORE, the condition of this obligation is such that if said Principal shall faithfully perform all the promises of the Principal, as set forth and provided in the Contract, in the Contract Documents, and in this Bond, then this obligation shall be null and void, otherwise it shall remain in full force and effect.

When a work, term, or phrase is used in this Bond, it shall be interpreted or construed first as defined in this Bond, the Contract, or the Contract Documents; second, if not defined in the Bond, Contract, or Contract Documents, it shall be interpreted or construed as defined in applicable provisions of the Iowa Code; third, if not defined in the Iowa Code, it shall be interpreted or construed according to its generally accepted meaning in the construction industry; and fourth, if it has no generally accepted meaning in the construction industry, it shall be interpreted or construed according to its common or customary usage.

Failure to specify or particularize shall not exclude terms or provisions not mentioned and shall not limit liability hereunder. The Contract and Contract Documents are hereby made a part of this Bond.

Project No. _____

(CON'T – PERFORMANCE, PAYMENT AND MAINTENANCE BOND)

Witness our hands, in triplicate, this _____ day of _____, _____.

Surety Countersigned By:

_____

Signature of Iowa Resident Commission Agent as Prescribed by Chapter 515.52-57, Iowa Code. (Require only if Attorney-in-Fact is not also an Iowa Resident Commission Agent).

_____

Name of Resident Commission Agent

_____

Company Name

_____

Company Address

_____

City, State, Zip Code

_____

Company Telephone Number

PRINCIPAL:

_____

Contractor

By: _____

Signature

_____

Title

SURETY:

_____

Surety Company

By: _____

Signature Attorney-in-Fact Officer

_____

Name of Attorney-in-Fact Officer

_____

Company Name

_____

Company Address

_____

City, State, Zip Code

_____

Company Telephone Number

NOTE: All signatures on this Performance, Maintenance & Payment Bond must be original signatures in ink; electronic, copies, or facsimile of any signature will not be accepted. This bond must be sealed with the Surety's raised, embossing seal or official adhesive seal. The Certificate or Power of Attorney accompanying this bond must be valid on its face and sealed with the Surety's raised, embossing seal or official adhesive seal.

SPECIAL PROVISIONS

FOR

Colby Park, 2023 Phase 1 Improvements
City of Windsor Heights
Windsor Heights, IA

TABLE OF CONTENTS

1) CONTRACT PROVISIONS

a) Completion Date

i) All work under the Contract must be substantially complete as detailed in Section 00500 – Contract

b) Liquidated Damage

i) Damages in the amount as detailed in Section 00500 –Contract per day will be assessed for each day the work remains incomplete.

c) Maintenance Bond & Warranty

i) To remedy any and all defects as detailed in Section 00500 – Contract.

d) Bid Quantity Revisions

i) All quantities are estimates and subject to revision by the Jurisdiction.

ii) Quantity changes that do not materially change the character of the work to performed and amount to less than Twenty (20) percent of a given bid item or less than Five (5) percent of the total contract amount shall not affect the unit price bid.

2) DEFINITION AND INTENT

a) The Specifications that apply to the materials and construction practices for this project are defined as follows:

i) The 2023 Edition of the SUDAS Standard Specifications, except as modified by these Special Provisions to the Technical Specifications.

ii) Omissions of words or phrases such as “the Contractor shall”, “in accordance with”, “shall be”, “as noted on the Plans”, “according to the Plans”, “a”, “an”, “the” and “all” are unintentional; supply omitted words or phrases by inference.

iii) “Owner”, “Jurisdiction” and “City” shall mean the City of Windsor Heights, acting through the Colby Park, 2023 Phase 1 Improvements project.

iv) “Person” shall mean any individual, partnership, limited partnership, joint venture, society, association, joint stock company, corporation, limited liability company, estate, receiver, trustee, assignee, or referee, whether appointed by a court or otherwise, and any combination of individuals.

v) “Engineer” shall mean the Engineer on Record.

vi) The intent of the Technical Specifications is to describe the construction desired, performance requirements, and standards of materials and construction.

vii) “Standard Drawings” shall mean the Figures bound within the SUDAS Standard Specifications and/or the Typical Drawings bound within the plans.

viii) “Work” shall mean the work to be done and the equipment, supplies, and materials to be furnished under the contract unless some other meaning is indicated by the context.

ix) “Or equal” shall follow manufacturers names used to establish standards and, if not stated, is implied.

b) Engineer: Bolton & Menk, Inc., 430 East Grand Ave, Suite 101, Des Moines, IA 50309, (515) 259-9190, desmoines@bolton-menk.com.

3) GENERAL PROVISIONS AND COVENANTS

a) Division 1 of the General Provisions and Covenants of the 2023 Edition SUDAS Standard Specifications is modified as follows:

i) Section 1020.1.09B, Unit Price Attachment.

(a) A computer generated unit price attachment may be submitted by the Bidder as specified by this Section.

ii) Section 1050, 1.05 Shop Drawings, Certificates, and Equipment Lists.

(a) Electronic submittal of shop drawings will be allowed.

(b) If hardcopy submittals are used, the Contractor shall submit a minimum of three (3) copies plus any additional required by the Contractor.

iii) Section 1050, 1.15 - Additional Contractor Responsibilities.

Notify residents a minimum of 48 hours prior to driveway closings.

4) WORK REQUIRED

a) Work under this contract includes all materials, equipment, transportation, traffic control, and associated work for the construction of the Colby Park, 2023 Phase 1 Improvements project as described in the Official Publication.

5) PLANS AND SPECIFICATIONS

a) The Owner will furnish five (5) sets of plans and specifications to the Contractor after award of the contract. The Contractor shall compensate the Owner for printing costs for additional copies required.

b) Contractor shall provide one set of plans and specifications for each foreman and superintendent in charge of each crew on the job.

6) SUBMITTALS

a) Contractor shall provide a construction schedule showing dates of starting and completing various portions of work. Schedule shall be updated as needed or as requested by Engineer due to changes in progress of construction from original schedule. Updates shall be completed within one week of request.

b) Contractor shall submit the following information for Engineer's review. Three (3) copies plus any additional copies required by Contractor shall be submitted to the Engineer at the preconstruction conference or at least 14 days prior to utilization of the particular item on this project.

i) Testing reports.

ii) Manufacturer's data for materials that are to be permanently incorporated into the project.

iii) Details of proposed methods of any special construction required.

iv) Purchase orders and subcontracts without prices.

v) Traffic control and staging plan.

vi) Such other information as the Engineer may request to insure compliance with contract documents.

vii) List of Subcontractors and Suppliers.

7) STANDARDS AND CODES

a) Construct improvements with best present day construction practices and equipment.

b) Conform with and test in accordance with applicable sections of the following standards and codes.

i) American Association of State Highway and Transportation Officials (AASHTO).

ii) American Society for Testing and Materials (ASTM).

iii) Iowa Department of Transportation Standard Specifications (Iowa DOT).

iv) American National Standards Institute (ANSI).

v) American Water Works Association (AWWA).

vi) American Welding Society (AWS).

vii) Federal Specifications (FS).

viii) Iowa Occupational Safety and Health Act of 1972 (IOSHA).

ix) Manual of Accident Prevention in Construction by Associated General Contractors of America, Inc. (AGC).

x) Standards and Codes of the State of Iowa and the ordinances of the Owner.

xi) Other standards and codes which may be applicable to acceptable standards of the industry for equipment, materials and installation under the contract.

8) CONSTRUCTION GENERAL

a) Procedures outlined herein are not intended to fully cover all special construction procedures but are offered as an aid to the Contractor in planning work.

b) Contractor shall cooperate with the City of Windsor Heights, Iowa and the Engineer to minimize inconvenience to property owners, other jurisdictions and motorists and to prevent delays in construction and interruption to continuous operation of utility services and site access.

c) The Contractor is expected to provide adequate personnel and equipment to perform work within the specified time of construction.

d) Contractor shall install and maintain orange safety fence around all open trenches or open structures when left unattended.

e) Contractor shall complete surface restoration and clean up activities as construction progresses.

9) EMPLOYMENT PRACTICES

a) Neither the Contractor nor the Contractor's subcontractors shall employ any person whose physical or mental condition is such that their employment will endanger the health and safety of anyone employed on the Project.

b) The Contractor shall not commit any of the following employment practices and agrees to include the following clauses in any subcontracts:

i) To discharge from employment or refuse to hire any individual because of sex, race, color, religion, national origin, sexual orientation, marital status, age, or disability unless such disability is related to job performance of such person or employee.

ii) To discriminate against any individual in terms, conditions, or privileges or employment because of sex, race, color, religion, national origin, sexual orientation, marital status, age, or disability unless such disability is related to job performance of such person or employee.

10) RESPONSIBILITY OF CONTRACTOR

a) Contractor shall provide supervision of the work.

b) Contractor shall provide protection of all property from injury or loss resulting from construction operations.

c) Contractor shall replace or repair objects sustaining any such damage, injury, or loss, to the satisfaction of Owner and Engineer.

d) Contractor shall cooperate with Owner, Engineer, and representatives of utilities in locating underground utility lines and structures. Incorrect, inaccurate, or inadequate information concerning location of utilities or structures shall not relieve the Contractor of responsibility for damage thereto caused by construction operations.

e) Contractor shall keep cleanup current with construction operations.

f) Contractor shall comply with all Federal, State of Iowa, and local laws and ordinances.

11) WORK HOURS/COMMUNITY EVENTS

a) The Contractor will be required to limit work hours on the Project from 7:00 a.m. to 7:00 p.m., Monday through Saturday, unless otherwise directed by the Engineer.

b) The following Community Events are scheduled. Contractor is required to coordinate with the Owner as needed to allow use of public property as necessary for the event. If contract continues for multiple years, event is still in force even though dates and locations may change.

12) CONSTRUCTION FACILITIES

a) Contractor shall provide telephone numbers where Contractor's representative can be reached during work days and on nights and weekends in event of emergency.

b) Contractor shall provide and maintain suitable sanitary facilities for construction personnel for duration of work; remove upon completion of work.

c) Contractor shall not store construction equipment, employee vehicles, or materials on streets open to traffic.

d) Contractor shall provide suitable storage facilities necessary for proper storage of materials and equipment. Location for storage of equipment by Contractor is subject to approval of Engineer.

e) Contractor will be required to make arrangements for all services required during the construction period and pay for such services at no additional cost to the Owner.

13) PROJECT SUPERVISION

a) The Contractor shall be represented in person at the construction site at all times that construction operations are proceeding. Representation constitutes a qualified superintendent or other designated, qualified representative capable of providing adequate supervision. The representative must be duly authorized to receive and execute instructions, notices, and written orders from the Engineer.

b) Resolution of issues that arise during construction relating to traffic control, construction staging, etc. is the responsibility of the Contractor.

c) Weekly progress meetings, if specified at the preconstruction conference may be held at the project site to review project schedule, coordinate activities, resolve conflicts, and coordinate the construction work. The day and time for this meeting will be set at the preconstruction conference. The Contractor shall provide qualified representation at each meeting.

d) Refer to Division 1 – General Provisions and Covenants, Section 1080 – Contractual Provisions, Part 1 – Prosecution and Progress of the Work, Section 1.10 Contractors Employees, Methods and Equipment for additional requirements.

e) Contractor shall provide supervision of all sub-contractors and their personnel while on the site.

14) COORDINATION WITH OTHERS

a) Contractor shall cooperate and coordinate construction with the Owner, utility companies, affected property owners, and other contractors working in vicinity of this project.

b) It is the Contractor's responsibility to schedule and coordinate work to minimize construction delays and conflicts.

c) Contractor shall cooperate and coordinate with property owners prior to beginning work that will affect their parcel.

15) CONSTRUCTION LIMITS

a) Contractor shall confine the construction operations within the construction limits shown on the plans.

b) Contractor shall not store equipment, vehicles, or materials within the right-of-way of any streets open to traffic or on temporary access roads at any time.

c) Areas disturbed outside of construction limits shall be restored at the contractor's expense to the satisfaction of the Jurisdiction.

d) Contractor shall protect trees, fences, and landscaping within the construction limits not marked for removal.

e) All work on this project will be within City Right-of-Way, Easements or Public Property.

16) CONSTRUCTION SCHEDULE

a) The Contractor will prepare and submit to the Engineer a project schedule that will assure the completion of the project within the time specified within the Contract.

b) Adequate equipment and forces shall be made available by the Contractor to start work immediately upon receipt of the Notice to Proceed.

c) Contractor shall submit a construction schedule at the preconstruction conference.

d) Contractor shall periodically update it as needed due to changes in progress of construction from original schedule or as requested by the Engineer. Updates shall be completed within one week of request.

e) The Contractor shall be required to meet the final completion date as specified in the written Notice to Proceed.

f) Contractor shall notify the City and property owners at least 48 hours prior to any street closures.

i) Notification shall be provided by written notice placed on the front door. The following items shall be included within the notice:

(a) The street name, location and proposed date of street closure

(b) The estimated schedule for completion of work

(c) The estimated date for reopening of the street

(d) Procedure for garbage collection recycling and postal service

17) CONSTRUCTION PHASING

a) Contractor shall refer to construction staging and traffic control plans when included in construction plans.

b) Contractor shall include construction phasing on the required construction schedule submittal.

18) CONSTRUCTION SURVEY DOCUMENTATION & RESPONSIBILITIES OF ENGINEER AND CONTRACTOR

a) Survey shall be the responsibility of Contractor per SUDAS requirements.

19) MATERIALS TESTS

a) Material testing as specified for construction will be completed by an independent testing laboratory retained by the Contractor and approved by the Engineer. Testing shall meet the requirements of the SUDAS Standard Specifications.

b) The Contractor shall coordinate all material testing with the Engineer.

c) The Contractor shall provide transportation of all samples to the laboratory.

d) The Contractor shall not deliver materials to the project site until laboratory tests have been furnished which verify compliance of materials with specifications.

e) Contractor shall provide gradation and materials certifications for all granular materials. Certify that sources of Portland Cement and aggregate sources are Iowa DOT approved.

f) Contractor shall certify that materials and equipment are manufactured in accordance with applicable specifications.

20) SOIL BORINGS

a) N/A

21) EXISTING UTILITIES

a) Location of utility lines, mains, cables, and appurtenances shown on plans are from information provided by utility companies and records of the Owner.

b) Prior to construction, Contractor shall contact all utility companies and have all utility lines and services located. The Contractor is responsible for excavating and exposing underground utilities in order to confirm their locations ahead of the work.

c) The Contractor is solely responsible for damage to utilities or private or public property due to utility disruption.

d) The Contractor shall notify utility company immediately if utility infrastructure is damaged during construction.

e) The Contractor shall support and protect all utilities that are not moved.

f) Utility services are not generally shown on plans; protect and maintain services during construction. Notify Jurisdiction and affected property Jurisdictions 48 hours prior to any planned utility service interruptions.

g) If private utility work occurs within/adjacent to the site during the construction period, Contractor shall coordinate work schedules with the Engineer.

h) Existing utilities shall remain in substantially continuous operation during construction. Contractor shall select the order and methods of construction that will not interfere with the operation of the utility systems. Interrupt utility services only with approval of Jurisdiction and Engineer.

i) No claims for additional compensation or time extensions will be allowed to the Contractor for interference or delay caused by utility companies.

22) SALVAGE OF MATERIALS / DISPOSAL

a) The Contractor shall remove from the project site and dispose of trees, shrubs, vegetation, excess soil excavation, rubbish, concrete, granular materials, and other materials encountered as shown on plans and as specified. Excess soil excavation not designated for waste locations shall be disposed as directed by the Engineer.

b) The Contractor shall dispose of materials in accordance with applicable laws and ordinances. Disposal sites are subject to the review and approval of the Engineer.

c) Burning of brush and other debris is not permitted. Contractor is responsible for selecting disposal location off site.

d) The Contractor shall dispose of broken concrete, asphalt, granular material, rubble, and excess or unsuitable excavated material. Contractor is responsible for selecting disposal location off site.

e) The Contractor shall cooperate with all applicable City, State and Federal agencies concerning disposal of materials.

f) The City of Windsor Heights, Iowa retains first right of refusal for retaining any existing materials removed by the construction.

g) The Contractor shall carefully remove, in a manner to prevent damage, all materials and equipment specified or indicated as salvage. The Contractor shall protect and store items specified.

h) Any items damaged in removal, storage, or handling through carelessness or improper procedures shall be replaced by the Contractor in kind with new items.

23) TRAFFIC CONTROL

a) Contractor shall furnish, erect, and maintain traffic control devices as specified in the construction drawings and directed by the Engineer including signs, barrels, cones, and barricades to direct traffic and separate traffic from work areas. Traffic control shall be in place prior to the closing of any streets.

b) Contractor shall provide traffic control devices in accordance with the Iowa DOT Standard Specification, Section 2528, Traffic Control, and the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).

c) Adjustments to the traffic control or the addition of flaggers will be required if, in the opinion of the Engineer, undue traffic congestion occurs.

d) Contractor shall provide continuous access for police, fire, and other emergency vehicles.

e) Contractor shall notify the Engineer in writing at least 72 hours prior to the start of any construction operation that will necessitate land closure or internal traffic control signing.

24) TEMPORARY FENCES

a) Contractor shall install temporary fencing around open excavations or material storage areas and as directed by Engineer to prevent access of unauthorized persons to construction areas.

b) Contractor shall provide orange plastic mesh safety fence with a nominal height of 48”. Support fence securely on driven posts in vertical position without sagging.

i) Refer to Iowa DOT Section 4188.03 for fence materials.

c) Temporary fencing installed around open excavations or material storage areas is incidental to construction and will not be measured for payment.

d) Contractor shall remove temporary fencing upon completion of construction.

25) DEWATERING

a) Contractor shall perform all construction work in dry conditions.

b) Unless specified in the Bid Items, all costs associated with Dewatering activities shall be incidental to the project.

c) Contractor shall submit dewatering methods to the Engineer for review. Obtain the Engineer's approval on methods prior to construction.

d) Groundwater levels are subject to variation. No additional compensation will be permitted due to high groundwater conditions.

e) Should cohesive soils with no wet sand seams or layers be encountered, it may be possible to control water seepage by draining groundwater to temporary construction sumps and pumping it outside the perimeter of the excavation.

f) The Contractor shall not pump water from open excavation in sand and gravel below the natural ground water level.

g) Contractor shall maintain water levels 2 feet or more below the bottom of excavations in saturated cohesionless (sand and/or gravel) soils to prevent upward seepage, which could reduce subgrade support.

   i) A dewatering system (well points or shallow wells) shall be installed when working in cohesionless soils.

   ii) Costs of installing and operating dewatering system are incidental, unless specified otherwise.

h) Contractor shall provide means for conveying surface water encountered during construction.

   i) Surface water shall be prevented from flowing into excavation and accumulated water shall be removed.

   ii) Surface water and storm sewer flows shall be diverted around areas of construction.

   iii) Sanitary sewers shall not be used for the disposal of dewatering or trench water.

i) Contractor shall backfill pipe and structures prior to stopping dewatering operations. Contractor shall not lay pipe or construct concrete structures on excessively wet soils.

j) Costs of conveying both surface water and groundwater are incidental.

26) INCIDENTAL CONTRACT ITEMS

a) The furnishing and installing of specific items and/or the performance of work under certain circumstances shall not be individually paid in the absence of a specific bid item for the work. These costs shall be included in the Unit Price bid for the individual items associated with the stated specific item or work effort. Such items of work include, but are not limited to:

Concrete header removal
Connections to existing storm sewer structures and pipes unless specified for separate payment
Construction and removal of temporary access roads
Construction fencing
Construction staging & phasing
Coordination and cooperation with affected property owners
Coordination and cooperation with the City of Windsor Heights
Coordination and cooperation with other Contractors
Coordination and cooperation with other projects in the area
Coordination and cooperation with utility companies
Dewatering and handling storm water flow during construction
Dust control measures
Engineering Fabric
Excavation, verification and protection of existing utilities
Field and wood fence removal

Field testing
Finish grading
Full depth sawcutting of existing pavement
Granular surfacing removal
Maintenance and watering for seeding and sodding
Maintenance of erosion control measures, including silt removal
Material testing
Monitoring weather conditions
Mowing
Overhaul
Proof rolling
Protection of existing hydrant(s) and valve(s)
Protection of existing trees and plantings not shown as removals
Protection of existing utilities and light poles
Removing and reinstalling existing signs
Reseeding
Site cleanup/restoration
Temporary safety closures
Working backfill to reduce moisture content
Working subgrade to achieve acceptable moisture content

******END OF SECTION******

TECHNICAL SPECIFICATIONS

SECTION 03 30 00

CAST-IN-PLACE CONCRETE

PART 1 -- GENERAL

1.1 SUMMARY

A. Section Includes:

1. Cast-in-place concrete, including concrete materials, mixture design, placement procedures, and finishes for post-tensioned slabs.

1.2 METHOD MEASUREMENT AND PAYMENT

A. Measurement and compensation for the following items shall be paid according to the referenced specification or as modified below:

1. Paid for as part of pickleball and tennis court lump sum items.

1.3 SUBMITTALS

A. Design Mixtures: For each concrete mixture, include the following:

1. Mixture identification.
2. Minimum 28-day compressive strength.
3. Durability exposure class.
4. Maximum w/cm.
5. Calculated equilibrium unit weight, for lightweight concrete.
6. Slump limit.
7. Air content.
8. Nominal maximum aggregate size.
9. Indicate amounts of mixing water to be withheld for later addition at Project site if permitted.

B. Shop Drawings:

1. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.

C. Qualification Data: For the following:

1. Installer: Include copies of applicable ACI certificates.
2. Ready-mixed concrete manufacturer.
3. Testing agency: Include copies of applicable ACI certificates.

D. Preconstruction Test Reports: For each mix design.

E. Field quality-control reports.

PART 2 -- PRODUCTS

2.1 CONCRETE, GENERAL

A. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:

1. ACI 301 (ACI 301M).

2.2 CONCRETE MATERIALS

A. Source Limitations:

1. Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant.
2. Obtain aggregate from single source.
3. Obtain each type of admixture from single source from single manufacturer.

B. Cementitious Materials:

1. Portland Cement: ASTM C150/C150M, Type I

C. Normal-Weight Aggregates: ASTM C33/C33M, Class 3S coarse aggregate or better, graded. Provide aggregates from a single source.

1. Maximum Coarse-Aggregate Size: 3/4-inch nominal.
2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
3. Water-Reducing Admixture: ASTM C494/C494M, Type A.
4. Retarding Admixture: ASTM C494/C494M, Type B.
5. High-Range, Water-Reducing Admixture: ASTM C494/C494M, Type F.
6. Plasticizing and Retarding Admixture: ASTM C1017/C1017M, Type II.

D. Water and Water Used to Make Ice: ASTM C94/C94M, potable

2.3 VAPOR RETARDERS

A. Sheet Vapor Retarder, Class A: ASTM E1745, Class A except with maximum water-vapor permeance of; not less than 10 mils (0.25 mm) thick. Include manufacturer's recommended adhesive or pressure-sensitive tape.

2.4 CURING MATERIALS

A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.

B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing ap-proximately 9 oz./sq. yd. (305 g/sq. m) when dry.

C. Moisture-Retaining Cover: ASTM C171, polyethylene film burlap-polyethylene sheet.

1. Color:
   a. Ambient Temperature Below 50 degrees Fahrenheit: Black.
   b. Ambient Temperature between 50 degrees Fahrenheit and 85 degrees Fahrenheit: Any color.
   c. Ambient Temperature Above 85 degrees Fahrenheit: White.

D. Water: Potable or complying with ASTM C1602/C1602M.

2.5 RELATED MATERIALS

A. Expansion- and Isolation-Joint-Filler Strips: ASTM D1751, asphalt-saturated cellulosic fiber

2.6 REPAIR MATERIALS

A. Repair Overlayment: Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/4 inch (6 mm) and that can be filled in over a scarified surface to match adjacent floor elevations.

1. Cement Binder: ASTM C150/C150M portland cement or hydraulic or blended hydraulic cement, as defined in ASTM C219.
2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.

3. Aggregate: Well-graded, washed gravel, 1/8 to ¼-inch or coarse sand as recommended by topping manufacturer.

4. Compressive Strength: Not less than [5000 psi] at 28 days when tested in accordance with ASTM C109/C109M.

2.7 CONCRETE MIXTURES, GENERAL

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, in accordance with ACI 301 (ACI 301M).

1. Use a qualified testing agency for preparing and reporting proposed mixture designs, based on laboratory trial mixtures.

2.8 CONCRETE MIXTURES

A. Class A: Normal-weight concrete used for slab on grade.

1. Exposure Class: ACI 318 (ACI 318M) F3.

2. Minimum Compressive Strength: 4500 psi at 28 days.

3. Maximum w/cm: 0.50

4. Slump Limit: 5.0-inches, plus or minus 1.0-inch.

5. Air Content: 6%

a. Exposure Classes F2 and F3: 6 percent, plus or minus 1.5 percent at point of delivery for concrete containing ¾-inch nominal maximum aggregate size.

6. Admixtures or other concrete additives that contain chloride material in any form cannot be used in post-tensioned concrete.

2.9 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete in accordance with ASTM C94/C94M, and furnish batch ticket information.

PART 3 -- EXECUTION

3.1 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs Project personnel qualified as an ACI-certified Flatwork Technician and Finisher and a supervisor who is a certified ACI Flatwork Concrete Finisher/Technician or an ACI Concrete Flatwork Technician.

B. Ready-Mixed Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94/C94M requirements for production facilities and equipment.

C. Laboratory Testing Agency Qualifications: A testing agency qualified in accordance with ASTM C1077 and ASTM E329 for testing indicated and employing an ACI-certified Concrete Quality Control Technical Manager.

1. Personnel performing laboratory tests shall be an ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician, Grade I. Testing agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician, Grade II.

3.2 EXAMINATION

A. Verification of Conditions:

1. Before placing concrete, verify that installation of concrete forms, accessories, and reinforcement, and embedded items is complete and that required inspections have been performed.

2. Do not proceed until unsatisfactory conditions have been corrected.

3.3 PREPARATION

A. Provide reasonable auxiliary services to accommodate field testing and inspections, acceptable to testing agency, including the following:

1. Daily access to the Work.

2. Incidental labor and facilities necessary to facilitate tests and inspections.

3. Secure space for storage, initial curing, and field curing of test samples, including source of water and continuous electrical power at Project site during site curing period for test samples.

4. Security and protection for test samples and for testing and inspection equipment at Project site.

3.4 INSTALLATION OF VAPOR RETARDER

A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder in accordance with ASTM E1643 and manufacturer's written instructions.

1. Install vapor retarder with longest dimension parallel with direction of concrete pour.

2. Face laps away from exposed direction of concrete pour.

3. Lap vapor retarder over footings and grade beams not less than 12.0-inches, sealing vapor retarder to concrete.

4. Lap joints 12.0-inches and seal with manufacturer's recommended tape.

5. Terminate vapor retarder at the top of floor slabs, grade beams, and pile caps, sealing entire perimeter to floor slabs, grade beams, foundation walls, or pile caps.

6. Seal penetrations in accordance with vapor retarder manufacturer's instructions.

7. Protect vapor retarder during placement of reinforcement and concrete.

a. Repair damaged areas by patching with vapor retarder material, overlapping damages area by 12.0-inches on all sides, and sealing to vapor retarder.

3.5 JOINTS

A. Construct joints true to line, with faces perpendicular to surface plane of concrete.

B. Construction Joints: Coordinate with floor slab pattern and concrete placement sequence.

1. Install so strength and appearance of concrete are not impaired, at locations indicated on Drawings or as approved by Architect.

2. Place joints perpendicular to main reinforcement.

a. Continue reinforcement across construction joints unless otherwise indicated.

b. Do not continue reinforcement through sides of strip placements of floors and slabs.

3. Form keyed joints as indicated. Embed keys at least 1 ½-inches into concrete.

C. Control Joints in Slabs-on-Ground: Form weakened-plane control joints, sectioning concrete into areas as indicated. Construct control joints for a depth equal to at least one-fourth of concrete thickness as follows:

1. Sawed Joints: Form control joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch wide joints into concrete when cutting action does not tear, abrade, or otherwise damage surface and before concrete develops random cracks.

D. Isolation Joints in Slabs-on-Ground: After removing formwork, install joint-filler strips at slab junctions with vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.

1. Extend joint-filler strips full width and depth of joint, terminating flush with finished concrete sur-face unless otherwise indicated on Drawings.
2. Install joint-filler strips in lengths as long as practicable. Where more than one length is required, lace or clip sections together.

E. Doweled Joints:

1. Install dowel bars and support assemblies at joints where indicated on Drawings.
2. Lubricate or asphalt coat one-half of dowel bar length to prevent concrete bonding to one side of joint.

3.6 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, embedded items, and vapor retarder is complete and that required inspections are completed.

1. Immediately prior to concrete placement, inspect vapor retarder for damage and deficient installation, and repair defective areas.
2. Provide continuous inspection of vapor retarder during concrete placement and make necessary repairs to damaged areas as Work progresses.

B. Notify Architect and testing and inspection agencies 24 hours prior to commencement of concrete placement.

C. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Engineer in writing, but not to exceed the amount indicated on the concrete delivery ticket.

D. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301 (ACI 301M), but not to exceed the amount indicated on the concrete delivery ticket.

E. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness.

1. If a section cannot be placed continuously, provide construction joints as indicated.
2. Deposit concrete to avoid segregation.
3. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints.
4. Consolidate placed concrete with mechanical vibrating equipment in accordance with ACI 301 (ACI 301M).
    a. Do not use vibrators to transport concrete inside forms.
    b. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6.0-inches into preceding layer.
    c. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity.
    d. At each insertion, limit duration of vibration to time necessary to consolidate concrete, and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

F. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.

1. Do not place concrete floors and slabs in a checkerboard sequence.
2. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
3. Maintain reinforcement in position on chairs during concrete placement.
4. Screed slab surfaces with a straightedge and strike off to correct elevations.

5. Level concrete, cut high areas, and fill low areas.
6. Slope surfaces uniformly to drains where required.
7. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane before excess bleedwater appears on the surface.
8. Do not further disturb slab surfaces before starting finishing operations.

3.7 FINISHING FORMED SURFACES

A. As-Cast Surface Finishes:

1. ACI 301 (ACI 301M) Surface Finish SF-1.0: As-cast concrete texture imparted by form-facing material.
   a. Patch voids larger than 1 ½-inches wide or ½-inch deep.
   b. Remove projections larger than 1.0-inch.
   c. Tie holes do not require patching.
   d. Surface Tolerance: ACI 117 (ACI 117M) Class D.
   e. Apply to concrete surfaces not exposed to public view.

3.8 FINISHING FLOORS AND SLABS

A. No sealant, coating, or curing compound to be applied to surface of post-tensioned slab.

B. Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

C. Float Finish:

1. When bleedwater sheen has disappeared and concrete surface has stiffened sufficiently to permit operation of specific float apparatus, consolidate concrete surface with power-driven floats or by hand floating if area is small or inaccessible to power-driven floats.
2. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture and complies with ACI 117 (ACI A117M) tolerances for conventional concrete.
3. Apply float finish to surfaces to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing, or sand-bed terrazzo.

D. Broom Finish: Apply a medium broom finish to post-tensioned slab.

1. Immediately after float finishing, slightly roughen surface by brooming with fiber-bristle broom perpendicular to main traffic route.
2. Acid etching for neutralization of concrete with high pH to achieve in concrete surface profile (CSP) 1.
3. Coordinate required final finish with Architect before application.

3.9 CONCRETE CURING

A. No sealant, coating, or curing compound to be applied to surface of post-tensioned slab.

B. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

1. Comply with ACI 301 (ACI 301M) and ACI 306.1 for cold weather protection during curing.
2. Comply with ACI 301 (ACI 301M) and ACI 305.1 (ACI 305.1M) for hot-weather protection during curing.
3. Maintain moisture loss no more than 0.2 lb/sq. ft. x h, calculated in accordance with ACI 305.1,) before and during finishing operations.

C. Curing Formed Surfaces: Comply with ACI 308.1 (ACI 308.1M) as follows:

1. Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces.
2. If forms remain during curing period, moist cure after loosening forms.
3. If removing forms before end of curing period, continue curing for remainder of curing period, as follows:
    a. Continuous Fogging: Maintain standing water on concrete surface until final setting of concrete.
    b. Continuous Sprinkling: Maintain concrete surface continuously wet.
    c. Absorptive Cover: Pre-dampen absorptive material before application; apply additional water to absorptive material to maintain concrete surface continuously wet.
    d. Water-Retention Sheeting Materials: Cover exposed concrete surfaces with sheeting material, taping, or lapping seams.

D. Curing Unformed Surfaces: Comply with ACI 308.1 (ACI 308.1M) as follows:
1. Begin curing immediately after finishing concrete.

3.10 TOLERANCES

A. Conform to ACI 117 (ACI 117M).

3.11 MAINTENANCE STRIP JOINT FILLING

A. Prepare, clean, and install joint filler in accordance with manufacturer's written instructions.
1. Defer joint filling until concrete has aged at least one month(s).
2. Do not fill joints until construction traffic has permanently ceased.

B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joints clean and dry.

C. Install semirigid joint filler full depth in saw-cut joints and at least 2.0-inches deep in formed joints.

D. Overfill joint, and trim joint filler flush with top of joint after hardening.

3.12 CONCRETE SURFACE REPAIRS

A. Defective Concrete:
1. Repair and patch defective areas when approved by Architect.
2. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

B. Patching Mortar: Mix dry-pack patching mortar, consisting of 1 part portland cement to 2 ½ parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.

C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than ½-inch in any dimension to solid concrete.
    a. Limit cut depth to ¾-inch.
    b. Make edges of cuts perpendicular to concrete surface.
    c. Clean, dampen with water, and brush-coat holes and voids with bonding agent.
    d. Fill and compact with patching mortar before bonding agent has dried.
    e. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.

2. Repair defects on surfaces exposed to view by blending white portland cement and standard port-land cement, so that, when dry, patching mortar matches surrounding color.
    a. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching.
    b. Compact mortar in place and strike off slightly higher than surrounding surface.
3. Repair defects on concealed formed surfaces that will affect concrete's durability and structural performance as determined by Architect.

D. Repairing Unformed Surfaces:
1. Test unformed surfaces, such as floors and slabs, for finish, and verify surface tolerances specified for each surface.
    a. Correct low and high areas.
    b. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
2. Repair finished surfaces containing surface defects, including spalls, popouts, honeycombs, rock pockets, crazing, and cracks in excess of 0.01-inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
3. After concrete has cured at least 14 days, correct high areas by grinding.
4. Correct localized low areas during, or immediately after, completing surface-finishing operations by cutting out low areas and replacing with patching mortar.
    a. Finish repaired areas to blend into adjacent concrete.
5. Correct other low areas scheduled to receive floor coverings with a repair underlayment.
    a. Prepare, mix, and apply repair underlayment and primer in accordance with manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
    b. Feather edges to match adjacent floor elevations.
6. Correct other low areas scheduled to remain exposed with repair topping.
    a. Cut out low areas to ensure a minimum repair topping depth of ¼-inch to match adjacent floor elevations.
    b. Prepare, mix, and apply repair topping and primer in accordance with manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
7. Repair defective areas, except random cracks and single holes 1.0-inch or less in diameter, by cutting out and replacing with fresh concrete.
    a. Remove defective areas with clean, square cuts, and expose steel reinforcement with at least a ¾-inch clearance all around.
    b. Dampen concrete surfaces in contact with patching concrete and apply bonding agent.
    c. Mix patching concrete of same materials and mixture as original concrete, except without coarse aggregate.
    d. Place, compact, and finish to blend with adjacent finished concrete.
    e. Cure in same manner as adjacent concrete.
8. Repair random cracks and single holes 1.0-inch or less in diameter with patching mortar.
    a. Groove top of cracks and cut out holes to sound concrete, and clean off dust, dirt, and loose particles.
    b. Dampen cleaned concrete surfaces and apply bonding agent.

c. Place patching mortar before bonding agent has dried.

d. Compact patching mortar and finish to match adjacent concrete.

e. Keep patched area continuously moist for at least 72 hours.

E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.

F. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.13 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a special inspector to perform field tests and inspections and prepare testing and inspection reports.

B. Testing Agency: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.

1. Testing agency shall be responsible for providing curing container for composite samples on Site and verifying that field-cured composite samples are cured in accordance with ASTM C31/C31M.

2. Testing agency shall immediately report to Architect, Contractor, and concrete manufacturer any failure of Work to comply with Contract Documents.

3. Testing agency shall report results of tests and inspections, in writing, to Owner, Architect, Contractor, and concrete manufacturer within 48 hours of inspections and tests.

a. Test reports shall include reporting requirements of ASTM C31/C31M, ASTM C39/C39M, and ACI 301, including the following as applicable to each test and inspection:

(1) Project name.

(2) Name of testing agency.

(3) Names and certification numbers of field and laboratory technicians performing inspections and testing.

(4) Name of concrete manufacturer.

(5) Date and time of inspection, sampling, and field testing.

(6) Date and time of concrete placement.

(7) Location in Work of concrete represented by samples.

(8) Date and time sample was obtained.

(9) Truck and batch ticket numbers.

(10) Design compressive strength at 28 days.

(11) Concrete mixture designation, proportions, and materials.

(12) Field test results.

(13) Information on storage and curing of samples before testing, including curing method and maxi-mum and minimum temperatures during initial curing period.

(14) Type of fracture and compressive break strengths at seven days and 28 days.

C. Batch Tickets: For each load delivered, submit three copies of batch delivery ticket to testing agency, indicating quantity, mix identification, admixtures, design strength, aggregate size, design air content, design slump at time of batching, and amount of water that can be added at Project site.

D. Inspections:

1. Verification of use of required design mixture.

2. Concrete placement, including conveying and depositing.
3. Curing procedures and maintenance of curing temperature.
4. Verification of concrete strength before removal of shores and forms from beams and slabs.
5. Batch Plant Inspections: On a random basis, as determined by Architect.

E. Concrete Tests: Testing of samples of fresh concrete obtained in accordance with ASTM C 172/C 172M shall be performed in accordance with the following requirements:

1. Testing Frequency: Obtain one sample for each day's pour of each concrete mix, plus one set for each additional 50 cu. yd. or fraction thereof.
    a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mix, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
2. Slump: ASTM C143/C143M:
    a. One test at point of placement for each sample, but not less than one test for each day's pour of each concrete mixture.
    b. Perform additional tests when concrete consistency appears to change.
3. Air Content: ASTM C231/C231M pressure method, for normal-weight concrete; ASTM C173/C173M volumetric method, for structural concrete;
    a. One test for each sample, but not less than one test for each day's pour of each concrete mixture.
4. Concrete Temperature: ASTM C1064/C1064M:
    a. One test hourly when air temperature is 40 degrees Fahrenheit and below or 80 degrees Fahrenheit and above, and one test for each sample.
5. Compression Test Specimens: ASTM C31/C31M:
    a. Cast and laboratory cure two sets of three 6.0-inch by 12.0-inch or 4.0-inch by 8.0-inch cylinder specimens for each sample for every 100 cubic yards of concrete poured.
6. Compressive-Strength Tests: ASTM C39/C39M.
    a. Test one set of three laboratory-cured specimens at seven days and one set of three specimens at 28 days for every 100 cubic yards of concrete poured.
    b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same sample and tested at age indicated.
7. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
8. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength, and no compressive-strength test value falls below specified compressive strength by more than 500 psi if specified compressive strength is 5000 psi, or no compressive strength test value is less than 10 percent of specified compressive strength if specified compressive strength is greater than 5000 psi.
9. Test results shall be reported in writing to Engineer, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7-and 28-day tests.

10. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Engineer but will not be used as sole basis for approval or rejection of concrete.
11. Additional Tests:
    a. Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Engineer.
    b. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42/C42M or by other methods as directed by Engineer.
        (1) Acceptance criteria for concrete strength shall be in accordance with ACI 301 (ACI 301M), section 1.6.6.3.
12. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
13. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

F. Measure floor and slab flatness and levelness in accordance with ASTM E1155 (ASTM E1155M) within 24 hours of completion of floor finishing and promptly report test results to Architect.

3.14 PROTECTION

A. Protect concrete surfaces as follows:
1. Protect from petroleum stains.
2. Diaper hydraulic equipment used over concrete surfaces.
3. Prohibit vehicles from interior concrete slabs.
4. Prohibit use of pipe-cutting machinery over concrete surfaces.
5. Prohibit placement of steel items on concrete surfaces.
6. Prohibit use of acids or acidic detergents over concrete surfaces.
7. Protect liquid floor treatment from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary covering, recommended in writing by liquid floor treatments installer.
8. Protect concrete surfaces scheduled to receive surface hardener or polished concrete finish using Floor Slab Protective Covering.

END OF SECTION 03 30 00

SECTION 03 38 16

UNBONDED POST-TENSIONED CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

B. Section Includes:

1. Post-tensioning tendons and accessories, including pocket formers, bar chairs, slab bolsters, and non-prestressed reinforcement required for installing post-tensioning tendons, including the following:

    a. Support bars.
    b. Backup bars and hairpins at anchorages.
    c. Hairpins at locations of horizontal curvature.
    d. Supplemental reinforcement at blockouts.

2. Post-tensioning operations, including stressing, recording tendon elongations and gage pressures, and finishing tendons.

1.3 DEFINITIONS

A. Strand Tail: Excess strand length extending past the anchorage device.

B. Stressing Pocket: Void formed by pocket former at stressing-end anchorage that provides required cover over wedges and strand tail.

C. Wedge Cavity: Cone-shaped hole in anchorage device designed to hold the wedges that anchor the strand.

1.4 COORDINATION

A. Attachments and Penetrations:

1. Attach permanent construction, such as curtain-wall systems, handrails, fire-protection equipment, lights, and security devices to the post-tensioned slab using embedded anchors.
2. Drilled anchors, power-driven fasteners, and core drilling for sleeves or other penetrations are not allowed unless authorized in writing by the Engineer.
3. Form penetrations within 18 inches of an anchorage with ASTM A53/A53M, Schedule 40 steel pipe.

1.5 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review procedures related to installation and stressing of post-tensioning tendons, including, but not limited to, the following:

    a. Construction schedule and availability of materials, personnel, and equipment needed to make progress and avoid delays.
    b. Storage of post-tensioning materials on-site.
    c. Structural load limitations.
    d. Coordination of post-tensioning installation drawings and non-prestressed reinforcing steel placing drawings.
    e. Horizontal and vertical tolerances on tendons and non-prestressed reinforcement placement.

f. Marking and measuring of elongations.
g. Submittal of stressing records and requirements for tendon finishing.
h. Removal of formwork.

1.6 ACTION SUBMITTALS

A. Product Data: For the following:

1. Post-tensioning coating.
2. Tendon sheathing.
3. Anchorage devices.
4. Tendon couplers.
5. Bar and tendon supports.
6. Pocket formers.
7. Sheathing repair tape.
8. Stressing-pocket patching material.
9. Encapsulation system.
10. Gradation samples from backfill material.

B. Shop Drawings: Prepared by or under the supervision of a qualified professional engineer, detailing tendon layout, installation procedures, and the following:

1. Installation drawings, including plans, elevations, sections, and details.
2. Numbers, arrangement, and designation of post-tensioning tendons.
3. Tendon profiles and method of tendon support, including chair heights and locations. Show tendon profiles at sufficient scale to clearly indicate all support points with their associated heights.
4. Details for horizontal curvature around openings and at anchorages.
5. Locations of anchorages and blockouts required for stressing.
6. Anchorage details, including bundled tendon flaring.
7. Tendon clearances around slab openings and penetrations.
8. Construction joint locations and pour sequence.
9. Details for corners and other locations where tendon layouts may conflict with one another or with non-prestressed reinforcing steel.
10. Locations of non-prestressed reinforcement required for installing post-tensioning tendons, including, but not limited to, the following:

    a. Support bars.
    b. Backup bars and hairpins at anchorages.
    c. Hairpins at locations of horizontal curvature.
    d. Supplemental reinforcement at blockouts.

11. Stressing procedures and jacking force to result in final effective forces used in determining number of tendons required.
12. Calculated elongations for each tendon.

C. Delegated-Design Submittal: For post-tensioning system.

1. Include sealed design calculations prepared by a qualified structural engineer indicating method of elongation calculation, including values used for friction coefficients, anchorage seating loss, elastic shortening, creep, relaxation, and shrinkage.

1.7 INFORMATION SUBMITTALS

A. Qualification Data: For Installer. Include resume of individual supervising installation and stressing of post-tensioning tendons.

B. Evaluation Reports: For each type of anchorage device and coupler, from ICC-ES:

C. Product Certificates: For each type of encapsulation system.

D. Mill Test Reports: Certified mill test reports for prestressing strand used on Project, indicating that strand is low relaxation and including the following:

1. Coil numbers or identification.
2. Breaking load.
3. Load at 1 percent extension.
4. Elongation at failure.
5. Modulus of elasticity.
6. Diameter and net area of strand.

E. Field quality-control reports.

F. Procedures Statement: Procedures for cutting excess strand tail and patching stressing pocket.

G. Stressing Jack Calibration: Calibration certificates for jacks and gages to be used on Project. Calibrate each jack-and-gage set as a pair.

H. Stressing Records: Submit the same day as stressing operations.

1.8 QUALITY ASSURANCE

A. Manufacturer Qualifications: Fabricating plant certified by PTI according to procedures set forth in PTI's "Manual for Certification of Plants Producing Unbonded Single Strand Tendons."

B. Installer Qualifications: A qualified installer whose full-time Project superintendent has successfully completed PTI's Level 1 – Field Fundamentals course or has equivalent verifiable experience and knowledge acceptable to the Engineer.

1. Superintendent shall be trained by post-tensioning supplier in the operation of stressing equipment to be used on Project.

C. Testing Agency Qualifications: Qualified according to ASTM E329 for testing indicated.

1. Testing Agency Inspector: Personnel performing field inspections and measuring elongations shall have successfully completed PTI's Level 1 – Field Fundamentals course or shall have equivalent verifiable experience and knowledge acceptable to the Engineer.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle post-tensioning materials according to PTI's "Field Procedures Manual for Unbonded Single Strand Tendons."

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain post-tensioning materials and equipment from single source.

1. Stressing jacks not provided by post-tensioning supplier must be calibrated and approved for use on Project by post-tensioning supplier.

2.2 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design post-tensioned reinforcement.

B. Design structure to withstand the loads indicated according to governing codes, within limits and under conditions indicated.

C. Average Precompression:

1. Minimum Average Slab Precompression: 125 psi.
2. Maximum Average Slab Precompression: 300 psi.

D. Comply with ACI 318 requirements unless more stringent requirements are indicated.

1. Limits on stresses at transfer of prestress and under service load.
2. Minimum bonded reinforcement.
3. Concrete cover over reinforcement.

E. Closure Strips: Locate closure strips at midspan and adjust tendon forces and profiles accordingly. Calculate moments in spans with closure strips assuming a continuous slab. Provide only non-prestressed reinforcement within closure strips. Design reinforcement in closure strip to carry ultimate moment at midspan.

2.3 PRESTRESSING TENDONS

A. ACI Publications: Comply with ACI 423.7 unless otherwise indicated.

B. Prestressing Strand: ASTM A416, Grade 270, uncoated, seven-wire, low-relaxation, 0.5-inch-diameter strand.

C. Post-Tensioning Coating: Compound with friction-reducing, moisture-displacing, and corrosion-inhibiting properties; chemically stable and nonreactive with prestressing strand, non-prestressed reinforcement, sheathing material, and concrete.

1. Minimum Coating Weight: 2.5 lb for 0.5-inch-diameter strand per 100 feet of strand.
2. Completely fill annular space between strand and sheathing over entire tendon length with post-tensioning coating.

D. Tendon Sheathing:

1. Material: Polyethylene or polypropylene with a minimum density of 0.034 lb/cu. in.
2. Minimum Thickness: 0.050 inch.
3. Continuous over length of tendon to provide watertight encapsulation of prestressing strand and between anchorages to prevent intrusion of cement paste or loss of coating for a nonencapsulated system.

E. Anchorage and Coupler Assemblies: Assemblies of prestressing strand, wedges, and anchor or coupler complying with static and fatigue testing requirements and capable of developing 95 percent of actual breaking strength of strand.

1. Anchorage Bearing Stresses: Comply with ACI 423.7 for stresses at transfer load and service load.
2. Fixed-End Anchorage Assemblies: Plant fabricated with wedges seated at a load of not less than 80 percent and not more than 85 percent of breaking strength of strand.

F. Encapsulation System: Watertight encapsulation of prestressing strand consisting of the following:

1. Encapsulation Caps: Attached to anchorages with a positive mechanical connection and completely filled with post-tensioning coating.

a. Encapsulation Caps for Fixed- and Stressing-End Anchorages: Designed to provide watertight encapsulation of wedge cavity. Sized to allow required extension of strand past the wedges.

1) Attach encapsulation caps for fixed-end anchorages in fabricating plant.

b. Encapsulation Caps at Intermediate Anchorages: Open to allow passage of strand.

2. Sleeves: Attached to anchorage with positive mechanical connection; overlapped a minimum of 4 inches with sheathing and completely filled with post-tensioning coating.

2.4 NONPRESTRESSED STEEL BARS

A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

B. Support Bars, Reinforcing Bars, and Hairpins:

1. Steel: ASTM A615, Grade 60, deformed.
2. Low-Alloy Steel: ASTM A706, deformed.
3. Epoxy-Coated Steel: ASTM A615, Grade 60, deformed bars, ASTM A775/A775M epoxy coated with less than 2 percent damaged coating in each 12-inch (300-mm) bar length.

a. Epoxy Repair Coating: Liquid, two-part, epoxy repair coating; compatible with epoxy coating on bars and complying with ASTM A775/A755M. After fabricating bars, repair damaged areas according to ASTM D3963/D3963M.

C. Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening tendons and tendon support bars in place. Manufacture bar supports, according to CRSI's "Manual of Standard Practice," from steel wire, plastic, or precast concrete of greater compressive strength than concrete, and as follows:

1. For uncoated bars, use all-plastic bar supports.
2. For epoxy-coated bars, use all-plastic bar supports.

2.5 ACCESSORIES

A. Pocket Formers: Capable of completely sealing wedge cavity; sized to provide the required cover over the anchorage and allow access for cutting strand tail.

B. Anchorage Fasteners: Uncoated-steel nails, wires, and screws used to attach anchorages to formwork.

C. Sheathing Repair Tape: Elastic, self-adhesive, moisture proof tape with minimum width of 2 inches (50 mm), in contrasting color to tendon sheathing; nonreactive with sheathing, coating, or prestressing steel.

2.6 PATCHING MATERIAL

A. One-component, polymer-modified, premixed patching material containing selected silica aggregates and portland cement, suitable for vertical and overhead applications. Do not use material containing chlorides or other chemicals known to be deleterious to prestressing steel or material that is reactive with prestressing steel, anchorage device material, or concrete.

2.6 BACKFILL

A. Backfill shall be used as a granular subbase.

B. After the subgrade in the area to be paved has been prepared as specified and approved by the engineer, the contractor shall construct a compacted granular subbase. The subbase shall consist of natural gravels conforming to IDOT Specification Section 4132 Special Backfill Material (4109 Gradation No. 31. Bidders shall submit gradation samples from stockpiled material. Crushed concrete shall not be allowed for this project.

C. To protect the subgrade and to ensure proper drainage, the spreading of the subbase shall begin along the centerline of the pavement on a crowned section or on the high side of pavements with a one-way slope.

D. The subbase shall be placed in horizontal lifts not exceeding 5 inches in depth and shall be compacted to not less than 98% of the Standard Proctor density as determined by ASTM methods.

E. During the placement of the subbase material, the moisture content of the subbase material shall be maintained within 2% of the optimum moisture content. If necessary, the contractor shall wet or disc the material to manipulate the moisture content.

F. Subbase compaction shall be scheduled to allow 48 hours for performing density tests in advance of paving operations.

G. The contractor shall be responsible for maintaining the required density, true cross section and smooth condition free from loose material prior to and during placement of the PT PCC pavement.

H. Upon acceptance of the Special Backfill the contractor shall cover the entire surface with 2 layers of polyethylene sheeting not less than 6 mils thick with taped joints meeting the requirements of ASTM E-1745.

PART 3 - EXECUTION

3.1 FORM WORK

A. Design formwork to support load redistribution that may occur during stressing operation. Ensure that formwork does not restrain elastic shortening, camber, or deflection resulting from application of prestressing force.

B. Do not remove forms supporting post-tensioned elements until tendons have been fully stressed and elongations have been approved by the Engineer.

C. Do not place concrete in supported floors until tendons on supporting floors have been stressed and elongations have been approved by the Engineer.

3.2 INSTALLATION OF NONPRESTRESSED STEEL REINFORCEMENT

A. Placement of non-prestressed steel reinforcement is specified in Section 032000 "Concrete Reinforcing." Coordinate placement of non-prestressed steel reinforcement with installation of post-tensioning tendons.

3.3 INSTALLATION OF TENDONS

A. Install tendons according to installation drawings and procedures stated in PTI's "Field Procedures Manual for Unbonded Single Strand Tendons."

1. Tolerances: Comply with tolerances in ACI 423.7 for beams and slabs.

B. Tendon Supports: Provide continuous slab bolsters or bars supported on individual high chairs spaced at a maximum of 42 inches on center to ensure tendons remain in their designated positions during construction operations and concrete placement.

1. Support tendons as required to provide profiles shown on installation drawings. Position supports at high and low points and at intervals not exceeding 42 inches. Ensure that tendon profiles between high and low points are smooth parabolic curves.
2. Attach tendons to supporting chairs and reinforcement without damaging tendon sheathing.

C. Maintain tendon profile within maximum allowable deviations from design profile as follows:

1. 1/4 inch for member depth less than or equal to 8 inches.
2. 3/8 inch for member depth greater than 8 inches and less than or equal to 24 inches.

D. Maintain minimum radius of curvature of 480-strand diameters for lateral deviations to avoid openings, ducts, and embedded items. Maintain a minimum of 2 inches of separation between tendons at locations of curvature.

E. Limit tendon bundles to five tendons. Do not twist or entwine tendons within a bundle. Maintain a minimum distance of 12 inches between center of adjacent bundles.

F. Limit tendon bundles to five tendons. Do not twist or entwine tendons within a bundle. Maintain a minimum distance of 12 inches between center of adjacent bundles.

G. If tendon locations conflict with non-prestressed reinforcement or embedded items, tendon placement governs. Obtain Engineer's approval before relocating tendons or tendon anchorages that interfere with one another.

H. Deviations in horizontal spacing and location of slab tendons are permitted when required to avoid openings and inserts.

I. Installation of Anchorages:

1. Place anchorages at locations shown on approved installation drawings.
2. Do not switch fixed- and stressing-end anchorage locations.
3. Attach pocket formers, intermediate anchorages, and stressing-end anchorages securely to bulkhead forms. Install stressing-end and intermediate anchorages perpendicular to tendon axis.
4. Install tendons straight, without vertical or horizontal curvature, for a minimum of 12 inches behind stressing-end and intermediate anchorages.
5. Embed intermediate anchorage devices at construction joints in first concrete placed at joint.
6. Minimum splice length in reinforcing bars at anchorages is 24 inches. Stagger splices a minimum of 60 inches.
7. Place fixed-end anchorages in formwork at locations shown on installation drawings. Support anchorages firmly to avoid movement during concrete placement.
8. Remove loose encapsulation caps on fixed-end anchorages, refill with post-tensioning coating, and re-attach encapsulation caps to achieve a watertight enclosure.

J. Maintain minimum concrete cover as follows:

1. From Exterior Edge of Concrete to Wedge Cavity: 2 inches.
2. From Exterior Edge of Concrete to Strand Tail: 3/4 inch.
3. From Exterior Edge of Concrete to Wedge-Cavity Cap: 1 inch.
4. Top, Bottom, and Edge Cover for Anchorages: As shown on drawings.

K. Maintain minimum clearance of 3 inches between tendons and openings.

L. Prior to concrete placement, mark tendon locations on formwork with spray paint.

M. Do not install sleeves within 36 inches of anchorages after tendon layout has been inspected.

N. Do not install conduit, pipe, or embeds requiring movement of tendons after tendon layout has been inspected.

O. Do not use couplers unless location has been approved by the Engineer.

3.4 SHEATHING INSPECTION AND REPAIR

A. Inspect sheathing for damage after installing tendons. Repair damaged areas by restoring post-tensioning coating and repairing or replacing tendon sheathing.

1. Ensure that sheathing is watertight and there are no air voids.
2. Follow tape repair procedures in PTI's "Field Procedures Manual for Unbonded Single Strand Tendons."

B. Maximum length of exposed strand behind anchorages is as follows:

1. Fixed End: 12 inches.
2. Intermediate and Stressing End: 1 inch.
   a. Cover exposed strand with sheathing repair tape to prevent contact with concrete.

C. Immediately remove and replace tendons that have damaged strand.

3.5 CONCRETE PLACEMENT

A. Do not place concrete until placement of tendons and non-prestressed-steel reinforcement has been inspected by testing agency.

B. Provide Engineer and testing agency a minimum of 48 hours' notice before concrete placement.

C. Ensure compaction of concrete around anchorages.

D. Ensure that the position of tendons and non-prestressed-steel reinforcement do not change during concrete placement. Reposition tendons and non-prestressed-steel reinforcement moved during concrete placement to original location.

E. Ensure that method of concrete placement does not damage tendon sheathing. Do not support pump lines,

chutes, or other concrete-placing equipment on tendons.

3.6 TENDON STRESSING

A. Calibrate stressing jacks and gages at start of project and at least every six months thereafter. Keep copies of calibration certificates for each jack-and-gage pair on Project site that are available for inspection. Exercise care in handling stressing equipment to ensure that proper calibration is maintained.

B. Stress tendons only under supervision of a qualified post-tensioning superintendent.

C. Stressing should not take place until the concrete has attained the proper strength required for stressing, but it should be done as soon as possible after this strength has been reached. If tests of concrete cylinders cured under jobsite conditions were not performed, performance test results may be obtained from the ready-mix concrete supplier. It is recommended that the tendons not be stressed earlier than 3 days (unless test cylinders have verified the initial minimum strength of 2000 psi has been reached) or more than 10 days after concrete placement, unless the test cylinders indicate that the minimum compressive strength required for the anchorage system furnished by the post-tension supplier has not been reached.

D. If concrete has not reached required compressive strength, obtain Engineer's approval to partially stress tendons and delay final stressing until concrete has reached required strength.

E. If detensioning and restressing of tendon is required, discard wedges used in original stressing and provide new wedges.

F. Mark and measure elongations according to PTI's "Field Procedures Manual for Unbonded Single Strand Tendons." Measure elongations to closest 1/8 inch.

G. Submit stressing records within one day of completion of stressing. If discrepancies between measured and calculated elongations exceed plus or minus 7 percent, resolve these discrepancies to satisfaction of the Engineer.

H. Prestressing will be considered acceptable if gage pressures shown on stressing record correspond to required stressing force and calculated and measured elongations agree within 7 percent.

I. If measured elongations deviate from calculated elongations by more than 7 percent, perform additional testing, restressing, strengthening, or replacing of affected elements unless otherwise approved by the Engineer.

J. Stressing Records: Testing agency shall record the following information during stressing operations:

1. Name of Project.
2. Date of approved installation drawings used for installation and stressing.
3. Concrete placement area.
4. Date of stressing operation.
5. Weather conditions, including temperature and rainfall.
6. Name and signature of inspector.
7. Name of individual in charge of stressing operation.
8. Serial or identification numbers of jack and gage.
9. Date of jack-and-gage calibration certificates.
10. Gage pressure to achieve required stressing force according to supplied calibration chart.
11. Tendon identification mark.
12. Calculated tendon elongation.
13. Actual tendon elongation.
14. Actual gage pressure.

3.7 TENDON FINISHING

A. Do not cut strand tails or cover anchorages until stressing records have been reviewed and approved by the Engineer.

B. Cut strand tails as soon as possible after approval of elongations.

C. Cut strand tail between 1/2 and 3/4 inch from wedges. Do not damage tendon or concrete during removal of strand tail. Acceptable methods of cutting strand tail include the following:

1. Oxyacetylene flame.
2. Abrasive wheel.
3. Hydraulic shears.
4. Plasma cutting.

D. Install encapsulation caps and sleeves on intermediate anchorages within one day of stressing.

E. Cut strand tails and install encapsulation caps on stressing-end anchorages within one day of Engineer's acceptance of elongations.

F. Patch stressing pockets within one day of cutting strand tail. Clean inside surface of stressing pocket to remove laitance or post-tensioning coating before installing patching material. Finish patching material flush with adjacent concrete.

3.8 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.
1. Before concrete placement, testing agency will inspect the following for compliance with post-tensioning installation drawings and the Contract Documents:

a. Location and number of tendons.
b. Tendon profiles and cover.
c. Installation of backup bars, hairpins, and other non-prestressed reinforcement shown on post-tensioning installation drawings.
d. Installation of pocket formers and anchorage devices.
e. Repair of damaged sheathing.
f. Connections between sheathing and anchorage devices.

2. Testing agency will record tendon elongations during stressing.

3. Testing agency will immediately report deviations from the Contract Documents to Engineer.

B. Prepare test and inspection reports.

3.9 FIELD TESTS

A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to sample materials, perform tests, and submit test reports during concrete placement. Sampling and testing for quality control may include those specified in this Article.

B. Testing Services: Testing of samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:

1. Testing Frequency: Obtain one sample for each day's pour of each concrete mix, plus one set for each additional 50 cu. yd. or fraction thereof.

a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mix, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.

2. Slump: ASTM C 143; one test at point of placement for each sample, but not less than one test for each day's pour of each concrete mix. Perform additional tests when concrete consistency appears to change.

3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; ASTM C 173, volumetric method, for structural concrete; one test for each sample, but not less than one test for each day's pour

of each concrete mix.

4. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each sample.

5. Compression Test Specimens: ASTM C 31/C 31M; cast and laboratory cure two sets of three 6.0-inch by 12.0-inch or 4.0-inch by 8.0-inch cylinder specimens for every 100 cubic yards of concrete poured.

6. Compressive-Strength Tests: ASTM C 39; test one set of three laboratory-cured specimens at 7 days and one set of three specimens at 28 days for every 100 cubic yards of concrete poured.

    a. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same sample and tested at age indicated.

C. Strength of each concrete mix will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi if specified compressive strength is 5000 psi, or no compressive strength test value is less than 10 percent of specified compressive strength if specified compressive strength is greater than 5000 psi.

D. Test results shall be reported in writing to Engineer, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7-and 28-day tests.

E. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Engineer but will not be used as sole basis for approval or rejection of concrete.

F. Additional Tests:

1. Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Engineer.

2. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42 or by other methods as directed by Engineer.

    a. Acceptance criteria for concrete strength shall be in accordance with ACI 301 (ACI 301M), section 1.6.6.3.

G. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

H. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

3.10 PROTECTION

A. Do not expose tendons to electric ground currents, welding sparks, or temperatures that would degrade components.

B. Protect exposed components within one workday of their exposure during installation.

C. Prevent water from entering tendons during installation and stressing.

D. Provide weather protection to stressing-end anchorages if strand tails are not cut within 10 days of stressing the tendons.

3.11 REPAIRS

A. Submit repair procedure to Engineer for evaluation and approval.

B. Do not proceed with repairs requiring removal of concrete unless authorized in writing by Engineer.

END OF SECTION 03 38 16

SECTION 11 68 33

ATHLETIC EQUIPMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes labor, materials, equipment, and accessories to provide the following:

1. Pickleball Court Net Post System

a. One (1) end net post and one (1) reel net post for each new court.

b. Net tensioning reel-on-reel net posts.

c. Concrete footing for posts with sleeve

d. One (1) tie-down ring set in concrete at center of each pickleball court net.

2. Outdoor Pickleball Court Nets.

a. One (1) nylon pickleball net system at each court.

b. One (1) center tie strap at each pickleball net.

3. Tennis Court Net Post System

a. One (1) end net post and one (1) reel net post for each new court.

b. Net tensioning reel-on-reel net posts.

c. Concrete footing for posts with sleeve

d. One (1) tie-down ring set in concrete at center of each tennis court net.

4. Outdoor Tennis Court Nets.

a. One (1) nylon tennis net system at each court.

b. One (1) center tie strap at each tennis net.

B. Work Specified in Other Sections:

1. Coordinate work with installation of fencing, drain tile, asphaltic concrete paving, exterior concrete work and acrylic court surfacing and striping.

1.2 SUBMITTALS

A. Furnish submittals.

B. Furnish complete specifications and product data which indicate compliance with specified requirements.

C. Shop Drawings shall include layout for posts and recommended installation instructions.

1.3 QUALITY ASSURANCE

A. Installation of posts shall be in accordance with the requirements of the current rules and regulations of regulating authorities for tennis.

PART 2 – PRODUCTS

2.1 PICKLEBALL COURT POST AND NET SYSTEM

B. Pickleball Nets (2)

1. Douglas JTN-30 Quickstart/Pickleball Net #20105
Contact: Douglas Sports, (800) 553-8907

a. 3.0MM Solid Core Knotted Braided Polyethylene with 285 LB. break strength

b. Single ply vinyl coated polyester headband 32 oz/sqyd

c. Black vinyl pockets with fiberglass dowels

d. Net size measures 3’-0” x 21’-9”

2. Or Approved Equal

C. Pickleball Posts (4)

1. Douglas Premier XS-36 Pickleball/Quickstart Tennis Posts
Contact: Douglas Sports, (800) 553-8907

a. 2-7/8” o.d. round , 8 guage allied’s zinc flo-coat galvanized steel

b. Internal wind 30:1 self-locking gears

c. Welded lacing rods

d. Die-case zinc caps and gear housings

e. Polyester powder coat finish

f. Color – Black #63034

2. Or approved Equal

D. Post Sleeves

1. Douglas Ground Sleeves GS-24RD/PVC #63164 or GS-24RD/AL #63171
Contact: Douglas Sports, (800) 553-8907

2. Or approved equal matching approved post manufacturer

2.2 TENNIS COURT POST AND NET SYSTEM

A. Tennis Nets (1)

1. Douglas TN-36T Tennis Net #30036T
Contact: Douglas Sports, (800) 553-8907

a. 3.5MM Solid Core Knotted Braided Polyethylene with 325 LB. break strength

b. Tapered to 36” high in center of net.

c. 2-ply vinyl coated polyester headband

d. Black vinyl side pockets with fiberglass dowels

e. Net size measures 3’-6” x 41’-9”

2. Or Approved Equal

B. Tennis Posts (2)

1. Douglas Premier XS Tennis Posts
Contact: Douglas Sports, (800) 553-8907

a. 2-7/8" OD Round 8 Gauge Allied's® Zinc Flo-coat® Galvanized Steel

b. Internal wind 30:1 self-locking gears

c. Welded lacing rods

d. Die-case zinc caps and gear housings

e. Polyester powder coat finish

f. Color – Black #63034

2. Or approved Equal

C. Post Sleeves

1. Douglas Ground Sleeves GS-24RD/PVC #63164 or GS-24RD/AL #63171
Contact: Douglas Sports, (800) 553-8907

2. Or approved equal matching approved post manufacturer

PART 3 - EXECUTION

3.1 INSTALLATION

A. Tennis and Pickleball Court Net Post System:

1. Install tennis/pickleball court net posts and center strap anchors plumb and true in 3,000 psi air entrained concrete footings as detailed on the Drawings. Set concrete in augured earth forms.

a. Bottom of posts and anchors shall be within 6 inches of bottom of augured hole.

b. Trowel finish concrete at top of footing to slope from the posts and anchors to the adjacent pavement elevation at ¼" per foot.

B. Tennis/Pickleball Court Nets:

1. Immediately prior to allowing public usage of the courts, the Contractor shall install net and center tie strap at each court in accordance with manufacturer's recommendations. Contractor shall not over tension the net.

2. Instruct the Owner as to the proper methods, care and maintenance of the net and strap system.

END OF SECTION 11 68 33

SECTION 26 05 00

COMMON WORK RESULTS

PART 1 - GENERAL

1.1 SCOPE

A. The work under this section includes basic electrical requirements, which are applicable to all Division 26, 27 and 28 sections.

B. Overview of Work

1. Demolition/Relocation/Modification

2. Power Distribution

3. Branch Power

4. Equipment Connections

5. Lighting and Lighting Controls

C. In these documents, "Contractor" refers to the Electrical Contractor and all their subcontractors, unless listed otherwise. The division of Work with the electrical scope is the responsibility of the General Contractor.

D. The Contractor is responsible for providing and installing fully functional systems.

E. If the Work is shown on the drawings or noted in the specifications, it shall be included by the Contractor.

F. If equipment is provided by the Contractor, it shall be installed by the Contractor, unless noted otherwise.

G. Drawings are necessarily diagrammatic by their nature and are not intended to show every connection in detail or every conduit in its exact location. Carefully investigate structural and finish conditions and coordinate the separate trades in order to avoid interference between the various phases of Work. Organize and lay out Work so that it will be concealed in furred chases and suspended ceilings, etc., in finished portions of the building, unless specifically noted to be exposed. Install all Work parallel or perpendicular to building lines unless otherwise noted.

H. The intent of the Drawings is to establish the types of systems and functions; not to set forth each item essential to the functioning of the system. Install the Work complete, including minor details necessary to perform the function indicated. Review pertinent Drawings and adjust the Work to conditions shown. Where discrepancies occur between Drawings, Specifications, and actual field conditions, immediately notify the Architect and Engineer for interpretations.

I. All sizes as given are minimum except as noted.

J. All materials shall be new (unless noted or stated otherwise) and free of defect.

K. All work shall be subject to the Architect's, Engineer's, and Owner's observations from the commencement of work until the acceptance of the completed work.

1.2 RELATED WORK

A. Applicable provisions of Division 0 and Division 1 govern work under this Section.

1.3 REFERENCES

A. All work shall conform to the most current version of all applicable codes and standards or the version adopted by the jurisdiction.

B. Codes

1. International Building Code

2. International Fire Protection Code

3. International Energy Conservation Code

4. NFPA – National Fire Protection Association

a. NFPA 70 (National Electric Code)
b. NFPA 72 (National Fire Alarm and Signaling Code)
c. NFPA 101 (Life Safety Code)

5. State or City Codes for the City of Windsor Heights.

C. Standards

1. ANSI

D. Governing Bodies

1. Owner's Insurance Company

2. State Fire Marshall

3. AHJ – Authority Having Jurisdiction

4. UL - Underwriters Laboratories

1.4 SUBMITTALS

A. The review of Shop Drawings by the Engineer is for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the Plans and Specifications. Approval of a specific item shall not include approval of an assembly of which the item is a component. The Contractor is responsible for: dimensions to be confirmed and correlated at the jobsite; information that pertains solely to the

fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination with the Work of all trades; and for performing all work in a safe and satisfactory manner.

B. Refer to individual technical Specification sections for specific submittal requirements.

C. Submission of Shop Drawings electronically in .PDF format is required.

D. If hard copies of shop drawings are required for this project, coordinate the quantity with the Architect and General Contractor. Provide one (1) copy for the Engineer's records.

E. The Engineer will review one (1) resubmittal for each product. If additional resubmittals are required, the Contractor shall be responsible to bear the cost for the Engineer to recheck and handle the additional shop drawing submittals. Documents will not be reviewed until payment is agreed upon.

F. Contractor may request electronic files from the Engineer if needed to complete their Shop Drawings. An Electronic File Request Form will be sent to the contractor if files are requested and must be completed and signed before the AutoCAD files are released to the Contractor.

G. All submittals for equipment and materials shall be reviewed and approved by the Engineer prior to the fabrication or release by the contractor. This includes the coordination of equipment between trades. The release, purchase, installation or fabrication of any items prior to the contractor receiving an approved shop drawing will be at the contractor's own risk. Any rework that results will be provided by the contractor at no cost to the Owner or design team.

H. Submittals must be reviewed and approved by the Contractor before submitting to the Engineer.

I. Submittals shall be grouped to include complete submittals of related systems, products, and accessories in a single submittal. Mark dimensions and values in units to match those specified. Include wiring diagrams of electrically powered equipment.

1.5 ELECTRONIC DOCUMENT RELEASE

A. Electronic versions of the bid documents will be made available to the contractors for use during the bidding process and to help generate fabrication drawings for various systems. A summary of the requirements for the various document types is listed below:

1. PDF

   a. Contact the Construction Manager or Architect to obtain a PDF version of the Bid Documents. No Document Release Form is required.

2. REVIT

   a. The REVIT drawings will be converted to AutoCAD and then transferred to the contractor.
   b. Bluestone Engineering can provide an AutoCAD version of the bid documents for the contractor to use for generating shop drawings and fabrication drawings. This will include plan drawings with the architectural background. The contractor is responsible for incorporating any modifications that occur during bidding by all disciplines. Details and schedules will not be included.
   c. A document release form (see attached) will be required to be completed by the contractor to determine the version of AutoCad and drawings required.
   d. Submittal of the document release form fee will be required prior to the AutoCAD files being transmitted.

1.6 SUBSTITUTIONS

A. All manufacturers listed as Acceptable Manufacturers in each specification section are considered equal to the basis of design. The basis of design is preferred and will take precedence. Any products from an alternate approved manufacturer need to meet the requirements and performance specified and shall be equal to the basis of design.

B. The Contractor may request permission for a substitution of any item (equipment or material), subject to the following conditions:

1. Submit substitution requests in writing to the Engineer, on a form supplied by the Engineer. A sample copy of this form is included at the end of this section. An electronic copy can also be provided to the Contractor by the Engineer.

2. Where equipment or accessories are used which differ in arrangement, configuration, dimensions, ratings, or engineering parameters from those indicated on the contractor documents, the Contractor is responsible for all costs involved in integrating the equipment or accessories into the system and the assigned space and for obtaining the performance from the system into which these items are placed as well as any re-design costs incurred by the Architect or Engineer. The Contractor is also responsible for coordinating changes required by other trades.

3. Any requests for alternate manufacturers must be submitted to the Architect/Engineer at least ten (10) days prior to bid day. Incomplete substitution requests will not be considered.

C. Approval

1. No work involving requests for substitution shall commence without written approval on the provided form by the Engineer.

2. Any work started or material ordered/installed by the Contractor without written approval shall be removed/repaired at the sole expense of the contractor. The Contractor will also be responsible for any costs incurred by the Owner for such rework.

1.7 QUALITY ASSURANCE

A. Warranty

1. Equipment warranty shall be a minimum of one (1) year from date of factory supervised startup or from the date of substantial completion, whichever is later.

2. Contractor shall warranty all of their work for one (1) year from the date of substantial completion

B. These documents are diagrammatical in nature and intended to convey scope and general arrangement of the electrical and technology systems. Not all conduits, junction boxes, accessories, etc. are shown on Plan. If items are required to make a system fully operational but not shown on Plan or in these Specifications, they shall be included by the Contractor.

C. The intent of the Drawings is to establish the types of systems and functions; not to set forth each item essential to the functioning of the system. Install the Work complete, including minor details necessary to perform the function indicated. Review pertinent Drawings and adjust the Work to conditions shown. Where discrepancies occur between Drawings, Specifications, and actual field conditions, immediately notify the Architect and Engineer for interpretations.

D. It is the contractor's responsibility to determine all utility routing prior to purchase and installation of material.

E. For remodel or addition projects, the contractor shall visit and survey the site prior to submitting a bid. The contractor shall visit the site to understand the complexity of utility routing, phasing, staging, and all general installation. Submitting a bid means the contractor acknowledges the complexities of the project and has made provisions for overcoming these complexities in their bid.

F. The Contractor shall report any discrepancies between these documents and site conditions immediately to the Engineer prior to submitting a bid or starting work. Submittal of a bid indicates that the contractor and the contractor's subcontractors have carefully and thoroughly reviewed the Drawings, Specifications, and other construction documents and have found them complete and free from ambiguities and sufficient for the purposes intended.

G. Install all equipment per the manufacturer's requirements / recommendations.

H. No equipment provided or installed shall contain mercury.

I. Manufacturer / Supplier Inspection & Startup

1. The following equipment shall have a factory representative perform start-up. The procedure shall be documented and submitted to the design team and Owner. Include copies of startup reports in the Operations & Maintenance Manuals.
   a. Lighting Control Systems

J. All equipment shall be UL listed where applicable.

1.8 CONTINUITY OF EXISTING SERVICES AND SYSTEMS

A. No outages shall be permitted on existing systems except at the time and during the interval specified by the Engineer and the Owner. Any outage must be scheduled when the interruption causes the least interference with normal work schedules and business routines. No extra costs will be paid to the Contractor for such outages which must occur outside of regular weekly working hours unless specifically noted in the Specifications or in the bidding requirements.

B. This Contractor shall restore any electrical services interrupted as a result of a lack of coordination to proper operation as soon as possible.

C. Contractor shall notify Owner of any utility service shutdown forty-eight (48) hours in advance. This includes power, telephone, cable TV, and other utilities related to this Contractor's scope of work.

1.9 REGULATORY AND UTILITY REQUIREMENTS

A. Contractor is responsible for coordinating all required site inspections by authorities having jurisdiction. Contractor shall notify General Contractor of all scheduled inspections seven (7) working days prior to site visit.

B. Contractor is responsible for paying for all fees, permits, and inspections that are required to complete their work.

1.10 PROTECTION OF FINISHED SURFACES

A. Furnish one (1) can of touch-up paint for each different color factory finish for equipment furnished by the Contractor. Deliver touch-up paint with other "loose and detachable parts" as covered in the General Requirements.

1.11 OMISSIONS

A. No later than ten (10) days before bid opening, the Contractor shall call the attention of the Architect and Engineer to any materials or apparatus the Contractor believes to be inadequate and to any necessary items of work omitted.

1.12 DELIVERY, STORAGE, AND HANDLING

A. All equipment and materials shall be protected during shipment and storage against physical damage, vermin, dirt, corrosive substances, fumes, moisture, cold and rain.

B. Store equipment indoors in clean dry space with uniform temperature to prevent condensation. Equipment shall include but not be limited to enclosures, controllers, circuit protective devices, cables, wire, light fixtures, electronic equipment, and accessories.

C. During installation, equipment shall be protected against entry of foreign matter; and be vacuum-cleaned both inside and outside before testing and operating. Compressed air shall not be used to clean equipment. Remove loose packing and flammable materials from inside equipment.

D. Take such precautions as are necessary to protect apparatus and materials from damage. Damaged equipment shall be, as determined by the Owner and/or Engineer, placed in first class operating condition or be returned to the source of supply for repair or replacement.

E. Protect factory finish from damage during construction operations until acceptance of the Project. Restore any finishes that become stained or damaged to Owner’s satisfaction.

1.13 WORK SEQUENCE AND SCHEDULING

A. Install work in phases to accommodate the Owner’s occupancy requirements. During the construction period coordinate electrical schedule and operations with the General Contractor.

1.14 DIVISION OF WORK AND COORDINATION

A. The Electrical Contractor is responsible for providing and installing power wiring up to equipment provided by others for a single point connection. Internal wiring of equipment provided by others shall be the responsibility of the manufacturer or the contractor responsible for providing and installing the equipment.

B. Controls, disconnect switches, starters, variable frequency drives, etc. shall be provided and installed by the contractor noted on the plans and in the specifications. It is the responsibility of the Contractor to

request written clarification for any ambiguity regarding division of work and coordination at least ten (10) days prior to bid.

C. Any installed work that is not coordinated and that interferes with other contractor's work shall be removed or relocated at the installing contractor's expense.

D. Coordinate installation of required supporting devices and set sleeves in poured-in-place concrete and other structural components as they are constructed.

1.15 SALVAGE MATERIALS

A. No materials removed from this project shall be reused. All materials removed shall become the property of, and shall be disposed of by, the Contractor except for items the Owner has designated they will keep.

1.16 OPERATION AND MAINTENANCE DATA

A. All operations and maintenance data shall comply with the submission and content requirements specified under section GENERAL REQUIREMENTS.

B. In addition to the general content specified under GENERAL REQUIREMENTS supply the following additional documentation as applicable:

1. Internal and interconnecting wiring and control diagrams with data to explain detailed operation and control of the equipment.

2. A control sequence describing start-up, operation, and shutdown.

3. Description of the function of each principal item of equipment.

4. Installation instructions.

5. Safety precautions for operation and maintenance.

6. Diagrams and illustrations.

7. Periodic maintenance and testing procedures and frequencies, including replacement parts numbers and replacement frequencies.

8. Performance data.

9. Where applicable, pictorial "exploded" parts list with part numbers. Emphasis shall be placed on the use of special tools and instruments. The list shall indicate sources of supply, recommended spare parts, and name of servicing organization.

10. List of factory approved or qualified permanent servicing organizations for equipment repair and periodic testing and maintenance, including addresses and factory certification qualifications.

1.17 RECORD DRAWINGS

A. The Contractor shall maintain at least one (1) copy of the Specifications and Drawings on the job site at all times.

B. The Architect will provide the Contractor with a suitable set of Contract Drawings on which daily records of changes and deviations from contract shall be recorded. Dimensions and elevations on the record drawings shall locate all buried or concealed piping, conduit, or similar items.

C. The daily record of changes shall be the responsibility of Contractor's field superintendent. No arbitrary mark-ups will be permitted.

D. At completion of the project, the Contractor shall submit the marked-up record drawings to the General Contractor prior to final payment.

PART 2 - PRODUCTS

2.1 GENERAL

A. Conditions: Provide new products of manufacturers regularly engaged in production of such equipment. Provide the manufacturer's latest standard design for the type of product specified.

2.2 ACCESS PANELS AND DOORS

A. Provide access panels and/or doors where required to maintain access to the electrical installation and where noted on the Drawings.

2.3 IDENTIFICATION

A. See Electrical Section 260553 – Identification.

PART 3 - EXECUTION

3.1 EXCAVATION AND BACKFILL

A. Perform all excavation and backfill work to accomplish indicated electrical systems installation in accordance with Division 31.

3.2 CONCRETE WORK

A. The Division 3 Contractor will perform all cast-in-place concrete unless noted otherwise elsewhere. Provide all layout drawings, anchor bolts, metal shapes, and/or templates required to be cast into concrete or used to form concrete for the support of electrical equipment.

3.3 CUTTING AND PATCHING

A. Refer to Division 1, General Requirements, Cutting and Patching.

3.4 EQUIPMENT ACCESS

A. Install all conduit, raceways, and accessories to permit access to equipment for maintenance. Coordinate the exact location of access panels and doors with the General Contractor, making sure that access is available for all equipment and specialties.

3.5 COORDINATION

A. The Contractor shall cooperate with other trades in locating work in a proper manner. Should it be necessary to raise or lower or move longitudinally any part of the electrical work to better fit the general installation, such work shall be done at no extra cost provided such decision is reached prior to actual installation. The Contractor shall check location of electrical outlets with respect to other installations before installing.

B. The Contractor shall verify that all devices are compatible for the surfaces on which they will be used. This includes, but is not limited to light fixtures, panelboards, devices, etc. installed in/on architectural surfaces.

C. Coordinate all work with other contractors prior to installation. Any installed work that is not coordinated and that interferes with other contractor's work shall be removed or relocated at the installing Contractor's expense.

D. Coordinate clearances in front of and above electrical distribution equipment with other trades to avoid interference issues. Maintain clearances as defined in the National Electrical Code. Pipes, ducts, etc. shall not be installed above electrical distribution equipment.

3.6 HOUSEKEEPING AND CLEAN UP

A. The Contractor shall clean up and remove from the premises, daily, all debris and rubbish resulting from its work and shall repair all damage to new and existing equipment resulting from its work. When job is complete, this Contractor shall remove all tools, excess material and equipment, etc., from the site.

3.7 TESTING

A. Test Conditions

1. Place circuits and equipment into service under normal conditions, collectively and separately, as may be necessary to determine satisfactory operation. Perform specified tests in the presence of the Owner's representative(s). Furnish all instruments, wiring, equipment and personnel required for conducting tests. Demonstrate that the equipment operates in accordance with requirements of the Contract Documents. Special tests on certain items are specified hereinafter.

2. Where specified that the testing be performed by an independent testing company, an Owner-approved National Electrical Testing Association (NETA) certified testing company shall be used. Submit copies of test reports.

3.8 OWNER TRAINING

A. Contractor to provide factory authorized representative and/or field personnel knowledgeable with the operations, maintenance and troubleshooting of the system and/or components defined within this

section for a minimum period of 1 hour.

3.9 PROJECT CLOSEOUT REQUIREMENTS

A. Final project closeout tasks

1. Deliver all spare parts listed in each specification section. Deliver to Owner chosen location.

2. All equipment labeled per specifications.

3. All equipment cleaned and ready for use. Install new fuses in all equipment with fuses; do not use Owner's spare fuses.

B. Contractor requirements

1. Marked up drawings and specifications provided to Engineer for incorporation of as-built drawings or to serve as the as-built drawings depending on the project requirements. As-built drawings shall be clean and legible.

2. Operation and Maintenance (O & M) Manuals shall include the following:

   a. Contractor contact for warranty work
   b. Approved shop drawings, incorporating all review comments
   c. Warranty copies
   d. Equipment start-up reports
   e. Operation and maintenance instructions

3. Utility Rebate Forms

   a. Contractor shall submit completed energy rebate forms for each piece of equipment that is eligible for a rebate. Eligible equipment shall include, but not be limited to the following:
      1) Exterior Lighting
   b. Contractor to complete information regarding equipment. Submit form to Owner; Owner will complete Owner's contact information and send the completed form to the utility.

C. Three (3) final approved O & M Manuals shall be delivered to Owner. Each manual shall be an appropriately sized three (3) ring binder with a vinyl cover and printed spine and cover labels. Each section shall have a printed divider tab. Each section shall be listed in a table of contents at the beginning of the manual.

END OF SECTION 26 05 00

(ELECTRONIC DOCUMENT RELEASE FORM & SUBSTITUTION REQUEST FORMS ATTACHED)

Document Release Form

Information Requested:

Project Name:
Drawings Requested:

Media Type: (Check all that are applicable)

- ☐ AutoCAD DWG Files (Version _____)
- ☐ REVIT Files (Version _____)
- ☐ Adobe PDF Files
- ☐ Other

Requesting Party:

Name:

Company:

Signature:

Date:

Address 1:

Address 2:

Email Address:

Phone #:

Bluestone Use:

Form Sent By:

Date:

Bluestone Project #:

Data contained on these electronic files are part of our instruments of service and shall not be used by you or anyone else receiving these data through or from you for any purpose other than as a convenience in the preparation of shop drawings for the referenced project. Any other use or reuse by you or by others will be at your sole risk and without liability or legal exposure to us. You agree to make no claim and hereby waive, to the fullest extent permitted by law, any claim or cause of action of any nature against us, our officers, directors, employees, agents or sub consultants that may arise out of or in connection with your use of the electronic files. Furthermore, you shall, to the fullest extent permitted by law, indemnify and hold us harmless against all damages, liabilities or costs, including reasonable attorneys' fees and defense costs, arising out of or resulting from your use of these electronic files. These electronic files are not construction documents. Differences may exist between these electronic files and corresponding hard-copy construction documents. We make no representation regarding the accuracy or completeness of the electronic files you receive. In the event that a conflict arises between the signed or sealed hard-copy construction documents prepared by us and the electronic files, the signed or sealed hard-copy construction documents shall govern. You are responsible for determining if any conflict exists. By your use of these electronic files, you are not relieved of your duty to fully comply with the contract documents, including, and without limitation, the need to check, confirm and coordinate all dimensions and details, take field measurements, verify field conditions and coordinate your work with that of other contractors for the project. Because information presented on the electronic files can be modified, unintentionally or otherwise, we reserve the right to remove all indicia of ownership and/or involvement from each electronic display.

5518 NW 88th Street | Johnston, IA 50131 | P 515.727.0700 | F 515.727.0777 | www.bluestonemep.com

SUBSTITUTION REQUEST FORM (DURING BIDDING)

We submit for your consideration the following product instead of the specified item for the following project:

PROJECT: _____

SPEC. SECTION	SPEC. TITLE	PARAGRAPH	SPECIFIED ITEM
_____	_____	_____	_____

Proposed Substitution: _____

MANUFACTURER	TRADE NAME	MODEL NO.
_____	_____	_____

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including Architectural and Engineering design, detailing, and construction costs caused by the substitution.

Submitted by:

_____
Signature

_____
Firm

_____
Telephone Email Date

Engineer's Review and Action

☐ Substitution Approved
☐ Substitution Approved As Noted
☐ Substitution Rejected
☐ Substitution Request Received Too Late

Signed by:

_____

Date

Supporting Data Attached:

☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ Other _____

SUBSTITUTION REQUEST FORM (AFTER BIDDING)

We submit for your consideration the following product instead of the specified item for the following project:

PROJECT: _____

SPEC. SECTION	SPEC. TITLE	PARAGRAPH	SPECIFIED ITEM
_____	_____	_____	_____

Proposed Substitution: _____

MANUFACTURER	TRADE NAME	MODEL NO.
_____	_____	_____

INSTALLER	PHONE NO.
_____	_____

History: ☐ New Product ☐ 2-5 years old ☐ 5-10 years old ☐ More than 10 years old

Differences between proposed substitution and specified product: _____

_____

_____

Proposed substitution affects other parts of Work: ☐ No ☐ Yes; explain _____

_____

Proposed substitution changes Contract Time: ☐ No ☐ Yes [Add] [Deduct] _____ days

Savings to Owner for accepting substitution: $_____

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including Architectural and Engineering design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by:

_____
Signature

_____
Firm

_____
Telephone Email Date

Engineer's Review and Action

☐ Substitution Approved
☐ Substitution Approved As Noted
☐ Substitution Rejected
☐ Substitution Request Received Too Late

Signed by:

_____
Date

Supporting Data Attached:

☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ Other _____

SECTION 26 05 02

ELECTRICAL DEMOLITION FOR REMODELING

PART 1 - GENERAL

1.1 SCOPE

A. Perform all Work required to provide the following demolition indicated by the Contract Documents with supplementary items necessary for proper installation. Demolition includes removal of existing tennis court lighting and associated controls.

1.2 REFERENCES

A. Applicable provisions of Division 1 govern work under this Section.

PART 2 - PRODUCTS

2.1 MATERIALS AND EQUIPMENT

A. Materials and equipment for patching and extending work as specified in the individual Sections.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify field measurements and circuiting arrangements as shown on Drawings.

B. Verify that abandoned wiring and equipment serve only abandoned facilities.

C. Demolition drawings are based on casual field observation and/or existing record documents. It is the responsibility of the Contractor to visit the site prior to bidding and include any necessary demolition, or relocation of items required to complete the work. Any work not included shall be clarified with the submittal of the Contractor's bid. Report discrepancies to the Architect and Engineer before disturbing existing installation.

D. Beginning of demolition means installer accepts existing conditions.

3.2 PREPARATION

A. Provide temporary wiring and connections to maintain existing systems in service during construction. When work must be performed on energized equipment or circuits, use personnel experienced in such operations. In particular, all security and safety systems must be maintained in operation at all times as required by the Owner. This includes security and safety lighting.

B. Existing Electrical Service: Maintain existing system in service until new system is complete and ready for service. Disable system only to make switchovers and connections. Obtain permission from the Owner at least 48 hours before partially or completely disabling system. Minimize outage duration. If required, make temporary connections to maintain service in areas adjacent to work area.

3.3 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK

A. Demolish and extend existing electrical work to meet all requirements of these Specifications.

B. If certain raceways and boxes are abandoned but not scheduled for removal, those items must be shown on the "As Built Drawings".

C. Remove, relocate, and extend existing installations to accommodate new construction.

D. Remove abandoned wiring to source of supply.

E. Disconnect and remove electrical devices and equipment serving utilization equipment that has been removed.

F. Disconnect and remove abandoned luminaires. Remove brackets, stems, hangers, and other accessories.

G. Repair adjacent construction and finishes damaged during demolition and extension work.

H. Maintain access to existing electrical installations which remain active. Modify installation or provide access panel as appropriate.

I. Extend existing installations using materials and methods compatible with existing electrical installations, or as specified. This includes the extension of the circuit from the last active device to the next device in the system to be activated.

3.4 LAMP HANDLING AND DISPOSAL

A. All lamps (fluorescent, incandescent, and HID) contain mercury and/or lead (in the base) as well as other heavy metals and compounds which are regulated by the EPA and DNR during the disposal process. As a result, regulations have been issued covering the handling and disposal of all lamps. Therefore, lamps which have been removed from service for disposal shall be handled as follows by the Contractor.

B. The Contractor shall very carefully remove all lamps (fluorescent, incandescent, and HID) from light fixtures before removal of the fixture from its mounted position. This is to reduce the likelihood that the lamp(s) will be broken. If the Contractor breaks more than 1% of the total lamps removed for the project, the Contractor will be charged the cost difference between disposal of broken lamps and disposal of unbroken lamps for all lamps broken in excess of 1% of the total lamps removed in the project.

C. The Contractor shall obtain containers from an approved lamp and ballast recycling vendor. Removed lamps shall be placed in containers provided by the Contractor and marked with the number and type of lamps. Containers shall be placed in storage in a location on the Owner’s property (this may be in another building) arranged by the Owner’s representative. The Contractor shall label the area as "Hazardous Material Storage - Mercury".

D. The Contractor shall provide to the General Contractor, in written form, a count of all stored lamps by type at the completion of the project.

E. The Owner will make arrangements for the lamps to be picked up.

3.5 CLEANING AND REPAIR

A. Clean and repair existing materials and equipment which remain or are to be reused.

B. Panelboards:

1. Clean exposed surfaces and check tightness of electrical connections. Replace damaged circuit breakers and provide closure plates for vacant positions. Provide typed circuit directory showing revised circuiting arrangement.

C. Luminaires:

1. Remove existing luminaires for cleaning. Use mild detergent to clean all exterior and interior surfaces; rinse with clean water and wipe dry. Replace lamps, ballasts (if required) and broken electrical parts.

END OF SECTION 26 05 02

SECTION 26 05 04

CLEANING AND TESTING

PART 1 - GENERAL

1.1 SCOPE

A. Perform all Work required to provide the required cleaning, repair, adjustment, calibration, maintenance and testing of electrical equipment, as specified herein. This applies only to new electrical and existing electrical equipment being furnished, modified, worked on or serviced by this contractor for this project.

1.2 REFERENCES

A. Applicable provisions of Division 1 govern work under this Section.

PART 2 - PRODUCTS – (NOT USED)

PART 3 - EXECUTION

3.1 GENERAL INSPECTION AND CLEANING OF ALL ELECTRICAL EQUIPMENT

A. Inspect for physical damage and abnormal mechanical and electrical conditions.

B. Any item found to be out of tolerance, or in any other way defective as a result of the required testing, shall be reported to the Engineer. Procedure for repair and/or replacement will be outlined. After appropriate corrective action is completed the item shall be re-tested.

C. Compare equipment nameplate information with the latest single line diagram and report any discrepancies.

D. Verify proper auxiliary device operation and indicators.

E. Check tightness of accessible bolted electrical joints. Use torque wrench method.

F. Make a close examination of equipment and remove any shipping brackets, insulation, packing, etc. that may not have been removed during original installation.

G. Make a close examination of equipment and remove any dirt or other forms of debris that may have collected in existing equipment or in new equipment during installation.

H. Clean All Equipment:

1. Vacuum inside of panelboards, etc.

2. Loosen attached particles and vacuum them away.

3. Wipe all insulators with a clean, dry, lint free rag.

4. Clean insulator grooves.

5. Inspect equipment anchorage.

6. Inspect equipment and bus alignment.

7. Check all heater elements for operation and control.

8. Lubricate nonelectrical equipment per manufacturer's recommendations.

3.2 GROUNDING SYSTEMS

A. Inspect the ground system for adequate termination at all devices.

3.3 INSTRUMENT TRANSFORMERS

A. Inspect for physical damage.

B. Inspect nameplate information for compatibility with one-line drawings.

C. Verify the transformers' connections with the system requirements.

D. Verify tightness of all bolted connections and assure adequate clearances exist from primary circuits to secondary circuit wiring and to grounds.

E. Verify that all required grounding and shorting connections exist and that those connections have good contact; i.e. sufficient surface area, good cleanliness, and proper pressure.

F. Test the proper operation of transformer withdrawal mechanism and the grounding operation when applicable.

G. Verify proper primary and secondary fuses and required sizes.

3.4 PROTECTIVE RELAYS

A. All relays shall be inspected for physical damage.

B. Inspect cover gaskets and cover glass for presence of foreign material and moisture and then clean.

3.5 GROUND FAULT SYSTEMS

A. Inspect for physical damage.

B. Inspect the neutral main bonding connection to assure:

1. Zero sequence system is grounded upstream of sensor.
2. Ground strap systems are grounded down stream from the sensing device.
3. Ground connection is made ahead of the neutral disconnect link.

3.6 CABLES

A. Visual and Mechanical Inspections:

1. Inspect exposed sections for physical damage.

2. Verify cable is supplied and connected in accordance with single line diagram.

3. Inspect for shield grounding, cable support and termination.

4. If cables are terminated through window type C.T.'s make an inspection to verify that neutrals and grounds are properly terminated for normal operation of protective devices.

5. Inspect for visual jacket and insulation condition.

6. Visible cable bends shall be checked against ICEA or manufacturer's minimum allowable bending radii -- 12 times the diameter for tape shielded cables.

7. Inspect for proper fireproofing in common cable areas.

8. There shall be NO tests performed on existing cable without specific direction from the Engineer.

B. Electrical Tests -- Below 600 Volts:

1. Visually inspect cables, lugs, connectors and all other components for physical damage and proper connections

2. Check all cable connectors for tightness (with a torque wrench) and clearances. Torque test conductor and bus terminations to manufacturer's recommendations.

3. Check for proper grounding resistance at all services and at transformers. Resistance shall be 5 ohms maximum.

3.7 LIGHT FIXTURES

A. Check the bonding and proper lumen output and orientation where applicable. Verify that recessed fixtures are installed with hold down clips where required. Confirm operation of the fixture with the proper switch or sensor.

END OF SECTION 26 05 04

SECTION 26 05 19

LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLE

PART 1 - GENERAL

1.1 SCOPE

A. Perform all Work required for furnishing and installing required wiring and cabling systems including pulling, terminating and splicing.

1.2 REFERENCES

A. Applicable provisions of Division 1 govern work under this Section

B. Section 260533 Raceway and Boxes

C. Section 260553 Identification

1.3 PROJECT CONDITIONS

A. Verify that field measurements are as shown on Drawings.

B. Conductor sizes are based on copper.

C. Wire and cable routing shown on Drawings is approximate unless dimensioned. Route wire and cable as required to meet project conditions.

D. Where wire and cable routing is not shown, and destination only is indicated, determine exact routing and lengths required.

PART 2 - PRODUCTS

2.1 GENERAL

A. All wire shall be new, delivered to the site in unbroken cartons and shall be less than one year old out of manufacturer's stock.

B. All conductors shall be copper.

C. Aluminum conductors size #1/0 and larger may be substituted for copper. The following requirements shall be met when aluminum conductors are used:

1. Aluminum alloy conductors shall be compact stranded conductors of a recognized Aluminum Association 8000 Series aluminum alloy conductor material (AA-8000 series alloy).

2. Aluminum alloy conductors must meet or exceed all ASTM specifications, UL Standard 83 and UL Standard 1063 and all requirements as specified in National Electrical Code Article 310.

3. It is the responsibility of the contractor to increase the size of the conduit, wire gutter, or enclosure, if necessary, to accommodate the aluminum conductors and meet allowable code requirements.

4. It is the responsibility of the contractor to increase the size of the aluminum conductor to match the ampacity of the copper conductor circuit shown on the Drawings.

5. All aluminum conductors shall terminate on a mechanical screw-type connector or mechanical compression-type connector. Connector shall be dual rated (ALCU, AL7CU or AL9CU) and Listed by UL for use with aluminum and copper conductors, and sized to accept aluminum conductors of the required ampacity.

6. When using compression-type connectors, the lugs shall be marked with wire size, die index, number and location of crimps and shall be suitably color-coded.

7. Using a suitable stripping tool, remove insulation from the required length of the conductor. Use caution to avoid damage to any of the individual strands.

8. Wire brush the conductor to remove any insulation that may have become trapped between the strands and apply a Listed joint compound.

9. Tighten or crimp the connection per the connector manufacturer's recommendation.

10. Wipe off any excess joint compound.

11. When terminating aluminum conductors to aluminum bus, prepare a mechanical screw-type or compression-type connection. Bolts shall be anodized alloy and conform to current ANSI and ASTM chemical and mechanical property limits. Nuts shall be aluminum alloy and conform to current ANSI standards. Washers shall be flat aluminum alloy, Type A plain, standard wide series conforming to current ANSI standards. Lubricate and tighten the hardware per manufacturer's recommendations.

12. When terminating aluminum conductors to copper bus, prepare a mechanical screw-type or compression-type connection. Bolts shall be plated or galvanized medium carbon steel; heat treated, quenched and tempered equal to current ASTM standard or SAE grade 5. Nuts shall conform to current ANSI standards. Washers shall be steel, Type A plain, standard wide series conforming to current ANSI standards. Belleville conical spring washers shall be of hardened steel, cadmium plated or silicone bronze. Lubricate and tighten the hardware per manufacturer's recommendations.

13. The contractor shall perform an infrared survey of all aluminum conductor connections after the installation is complete and in normal service. Infrared surveys shall be performed during periods of maximum possible loading with at least 30% of rated load of the equipment being inspected. All connections with elevated temperatures shall be corrected by the contractor. The infrared survey results shall be provided in report form, in the completed O&M manuals.

14. No copper-to-aluminum transitions permitted when splicing onto existing copper feeders.

D. Insulation shall have a 600 volt rating.

E. Conductors may be solid or stranded.

F. Stranded conductors may only be terminated with UL OR ETL Listed type terminations or methods: e.g. stranded conductors may not be wrapped around a terminal screw but must be terminated with a crimp type device or must be terminated in an approved back wired method.

2.2 BUILDING WIRE

A. Acceptable Manufacturers: American Insulated Wire Corp., BICC General Cable Industries Inc., Cerro Wire & Cable Co. Inc., Pirelli Cable Corp., Rome Cable Corp., or Southwire Co.

B. Single Conductor Insulated Wire.

1. THHN, THW, THW-2, THWN, THWN-2, XHH, XHHW, or XHHW-2: Wiring in dry or damp locations (except where special type insulation is required).

2. THWN, THWN-2, XHHW, XHHW-2: Wiring in wet locations

3. THHN, THWN or THWN-2: Wiring installed in existing raceway systems (except where special type insulation is required).

2.3 WIRING CONNECTORS

A. Split Bolt Connectors: Not acceptable unless noted otherwise.

B. Solderless Pressure Connectors: High copper alloy terminal. May be used only for cable termination to equipment pads or terminals. Not approved for splicing.

C. Spring Wire Connectors: Solderless spring type pressure connector with insulating covers for copper wire splices and taps. Use for conductor sizes 10 AWG and smaller.

D. All wire connectors used in underground or exterior pull boxes shall be gel filled twist connectors or a connector designed for damp and wet locations.

E. Mechanical Connectors:

1. Bolted type tin-plated; high conductivity copper alloy; spacer between conductors; beveled cable entrances.

F. Insulated Connector Blocks:

1. Conductor count, size, and entry configuration to match application.

2. UV rated.

3. Dual rated for use with copper or aluminum conductors.

4. 600 volt, 90° C termination rating.

5. Caps for sealing wrench access port.

G. Compression (crimp) Connectors:

1. Long barrel; seamless, tin-plated electrolytic copper tubing; internally beveled barrel ends. Connector shall be clearly marked with the wire size and type and proper number and location of crimps.

2.4 WIRE MANAGEMENT

A. Cable Clamps and Clips, Cable Ties, Spiral Wraps, etc: Catamount/T&B Corp., or Ideal Industries Inc.

PART 3 - EXECUTION

3.1 GENERAL WIRING METHODS

A. Install electrical cable, wire and connectors as indicated, in accordance with the manufacturer's written instructions, the applicable requirements of NEC, and as required to ensure that products serve the intended functions.

B. Cables shall be selected on the basis of their purpose and UL listing.

1. Generally, use Types THWN, XHHW and THNN in building interiors and other dry locations.

2. Outdoors and in underground raceways, use Type THWN or other conductor type rated for wet location as required by NEC 300.5(B).

3. Conductors subject to abrasion, such as in lighting poles, shall be Type THWN or THHN.

C. All wire and cable shall be installed in conduit.

D. Do not use wire smaller than 12 AWG for power and lighting circuits. Minimum size for control circuits shall be 14 AWG copper stranded.

E. All conductors shall be sized to prevent excessive voltage drop at rated circuit ampacity.

F. As a minimum use 10 AWG conductor for 20 ampere, 120 volt branch circuit home runs longer than 100 feet.

G. Make conductor lengths for parallel conductors equal.

H. Splice only in junction or outlet boxes.

I. No conductor less than 10 AWG shall be installed in exterior underground conduit.

J. Neatly train and lace wiring inside boxes, equipment, and panelboards.

3.2 WIRING INSTALLATION IN RACEWAYS

A. Pull all conductors into a raceway at the same time. Use Listed wire pulling lubricant for pulling 4 AWG and larger wires and for other conditions when necessary.

B. Install wire in raceway after interior of building has been physically protected from the weather and all mechanical work likely to injure conductors has been completed.

C. Completely and thoroughly swab raceway system before installing conductors.

D. Place all conductors of a given circuit (this includes phase wires, neutral (if any), and ground conductor) in the same raceway. If parallel phase and/or neutral wires are used, then place an equal number of phase and neutral conductors in same raceway or cable.

3.3 WIRING CONNECTIONS AND TERMINATIONS

A. Splice only in accessible junction boxes.

B. Wire splices and taps shall be made firm, and adequate to carry the full current rating of the respective wire without soldering and without perceptible temperature rise.

C. All splices shall be so made that they have an electrical resistance not in excess of two feet (600 mm) of the conductor.

D. Use solderless spring type pressure connectors with insulating covers for wire splices and taps, 10 AWG and smaller.

E. Use mechanical or compression connectors for wire splices and taps, 8 AWG and larger. Tape uninsulated conductors and connectors with electrical tape to 150 percent of the insulation value of conductor.

F. Thoroughly clean wires before installing lugs and connectors.

G. At all splices and terminations, leave tails long enough to cut splice out and completely re-splice.

H. Protect wiring in device and junction boxes from paint overspray. Wiring covered with paint shall be removed and replaced where needed by the Contractor.

3.4 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed under provisions of Section 260504 Cleaning and Testing.

3.5 WIRE COLOR

A. For wire sizes 10 AWG and smaller - Wire shall be colored as indicated below.

B. For wire sizes 8 AWG and larger – Use colored wire, or identify wire with colored ½" or ¾" tape bands at all terminals, splices and boxes. Tape bands shall be installed at every 12" for the entire visible length. Colors to be as indicated below.

C. In existing facilities, use existing color scheme if it complies with NFPA 70.

D. In new facilities, use the following color scheme:

1. Black and red for single phase circuits at 120/240 volts

2. Neutral Conductors: White for 120/240V systems. Where there are two or more neutrals in one conduit, each shall be individually identified with a different stripe.

3. Note: This includes fixture whips except for Listed whips mounted by the fixture manufacturer on the fixture and Listed as a System.

E. All switch legs shall be the same color as their associated circuit. Traveler conductors run between 3 and 4 way switches shall be colored pink or purple.

F. Ground Conductors: Green for 2 AWG and smaller. For 1 AWG and larger, identify with green colored wire, or with green tape at both ends and at all access points, such as panelboards, disconnects and junction boxes.

3.6 WIRE MANAGEMENT

A. Use wire management products to bundle, route, and support wiring in junction boxes, pullboxes, wireways, gutters, channels, and other locations where wiring is accessible.

3.7 BRANCH CIRCUITS

A. The use of single-phase, multi-wire branch circuits with a common neutral is not permitted. All branch circuits shall be furnished and installed with an individual accompanying neutral, sized the same as the phase conductors.

END OF SECTION 26 05 19

SECTION 26 05 26

GROUNDING

PART 1 - GENERAL

1.1 SCOPE

A. Perform all Work required to provide and install the following grounding indicated by the Contract Documents with supplementary items necessary for proper installation.

B. Equipment included in this Section

1. Grounding electrodes and conductors

2. Equipment grounding conductors

3. Bonding

1.2 REFERENCES

A. The latest published edition of a reference shall be applicable to this Project unless identified by a specific edition date.

B. All reference amendments adopted prior to the effective date of this Contract shall be applicable to this Project.

C. All design, materials, installation and testing pertaining to grounding and bonding system shall comply with the latest edition of applicable requirements and standards addressed within the following references:

1. Applicable provisions of Division 1 govern work under this Section

2. Section 260519 – Low Voltage Electrical Power Conductors and Cable

3. NFPA 70 - National Electrical Code.

4. ANSI/IEEE 142 (Latest edition) - Recommended Practice for Grounding of Industrial and Commercial Power Systems.

5. IEEE 81 - Guide for Measuring Earth Resistivity, Ground Impedance and Earth Surface Potentials of a Ground System.

6. IEEE 1100 - Recommended Practice for Powering and Grounding Electronic Equipment (IEEE Emerald Book).

7. IEEE C2 - National Electrical Safety Code (NESC).

8. UL 467 – Grounding and Bonding Equipment.

1.3 QUALITY ASSURANCE

A. See Part 3 of this Specification for system requirements and performance requirements.

1.4 SUMMARY

A. Bond together system service equipment enclosures, exposed non-current carrying metal parts of electrical equipment, metal raceway systems, metal cable trays, auxiliary gutters, meter fittings, boxes, cable armor, cable sheath, ground bus in electrical rooms, metal frame of the building or structure, ground ring, lightning down lead conductor, grounding conductor in raceways and cables, receptacle ground connectors, and metallic plumbing systems.

1.5 CERTIFICATIONS

A. Two (2) weeks prior to final inspection, submit four (4) copies of the following to the Engineer and General Contractor/Construction Manager:

1. Certification that the materials and installation is in accordance with the drawings and specifications.

2. Certification, by the Contractor, that the complete installation has been properly installed and tested.

PART 2 - PRODUCTS

2.1 GENERAL

A. All materials shall meet or exceed all applicable referenced standards, federal, state and local requirements, and conform to codes and ordinances of authorities having jurisdiction.

B. Grounding system components shall be as required to comply with the design and construction of the system indicated. Components shall be as indicated in manufacturer's submittal data.

2.2 ROD ELECTRODE

A. Material: Copper-clad steel.

B. Diameter: 3/4 inch minimum.

C. Length: Ten (10) feet minimum.

2.3 COMPRESSION CONNECTORS

A. The compression connectors shall be manufactured from pure wrought copper.

B. The conductivity of this material shall be no less than 99% by IACS standards.

C. The connectors shall meet or exceed the performance requirements of IEEE 837, latest revision.

D. The installation of the connectors shall be made with a compression, tool and die system, as recommended by the manufacturer of the connectors.

E. The connectors shall be clearly marked with the manufacturer, catalog number, conductor size and the required compression tool settings.

F. Each connector shall be factory filled with an oxide-inhibiting compound.

2.4 GROUND CONDUCTORS

A. Material:

1. Provide 600-volt insulated copper (aluminum not permitted) conductors having a green-colored insulation for grounding electrode and equipment grounding conductors. Use stranded conductors.

2. Conduit grounding conductors shall be insulated copper conductor, green in color to size 2 AWG. Insulated conductors larger than 2 AWG shall be same as phase conductors but identified with green or green/yellow tape at each accessible opening or location in raceway.

3. Provide bare conductors for bonding jumpers.

4. Provide tinned copper conductors for exterior installations.

B. Feeder and Branch Circuit Equipment Ground: Size as shown on drawings, specifications or as required by NFPA 70, whichever is larger.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that final backfill and compaction has been completed before driving rod electrodes.

3.2 GENERAL

A. Install Products in accordance with manufacturer's instructions.

B. Install grounding conductors continuous, without splice or connection, between equipment and grounding electrodes.

C. Size: When grounding and bonding conductors are not sized on Drawings, size the grounding conductors in accordance with NEC. Size bonding jumper so that minimum cross-sectional area is greater than or equal to that of the equivalent grounding conductor as determined from NEC.

D. Ground connection surfaces shall be cleaned and all buried or inaccessible connections shall be made so that it is impossible to move them.

E. Attach grounds permanently before permanent building service is energized.

F. All grounding electrode conductors shall be installed in PVC conduit, in exposed locations.

3.3 LESS THAN 600 VOLT SYSTEM GROUNDING

A. Equipment Grounding: Metallic structures, enclosures, raceways, junction boxes, outlet boxes, cabinets, machine frames, and other conductive items in close proximity with electrical circuits shall be bonded and grounded.

B. Conduit System:

1. Ground all metallic conduit systems. All metallic conduit systems shall contain an equipment grounding conductor.

2. Non-metallic conduit systems shall contain an equipment grounding conductor, except that non-metallic feeder conduits which carry a grounded conductor from exterior transformers to interior or building-mounted service entrance equipment need not contain an equipment grounding conductor.

3. Install an insulated grounding conductor internally to all flexible metal conduits. All flexible metal conduit containing power circuits shall utilize grounding bushings. The grounding bushing shall contain a bonding jumper and shall be terminated at the equipment ground bus. The grounding conductor shall terminate at the equipment ground bus. Install external ground wire on liquid tight flexible metal conduit. Provide suitable grounding bushing at each end of liquid tight flexible metal conduit at transformers. External ground wire shall be in addition to grounding conductors installed internal to raceway system.

4. Conduit containing only a grounding conductor, and which is provided for mechanical protection of the conductor, shall be bonded to that conductor at the entrance and exit from the conduit.

C. Feeders and Branch Circuits: Install equipment grounding conductors with all feeders and power and lighting branch circuits.

D. Boxes, Cabinets, Enclosures, and Panelboards:

1. Bond the equipment grounding conductor to each pullbox, junction box, outlet box, device box, cabinets, and other enclosures through which the conductor passes.

2. Provide lugs in each box and enclosure for equipment grounding conductor termination.

3. Provide ground bars in panelboards, bolted to the housing, with sufficient lugs to terminate the equipment grounding conductors.

E. Receptacles shall not be grounded through their mounting screws. Ground with a jumper from the receptacle green ground terminal to the device box ground screw and the branch circuit equipment grounding conductor.

F. Ground lighting fixtures to the equipment grounding conductor of the wiring system when the green ground is provided; otherwise, ground the fixtures through the conduit systems. Fixtures connected with flexible conduit shall have a green ground wire included with the power wires from the fixture through the flexible conduit to the first outlet box.

G. Fixed electrical appliances and equipment shall be provided with a ground lug for termination of the equipment grounding conductor.

3.4 CORROSION INHIBITORS

A. When making ground and ground bonding connections, apply a corrosion inhibitor to all contact

surfaces. Use corrosion inhibitor appropriate for protecting a connection between the metals used.

3.5 GROUND ROD INSTALLATION

A. Drive each rod vertically in the earth, not less than 10 feet in depth.

B. Where permanently concealed ground connections are required, make the connections by the exothermic process to form solid metal joints. Make accessible ground connections with mechanical pressure type ground connectors.

C. Where rock prevents the driving of vertical ground rods, install angled ground rods or grounding electrodes in horizontal trenches to achieve the specified resistance.

3.6 FIELD QUALITY CONTROL

A. Inspect grounding and bonding system conductors and connections for tightness and proper installation.

END SECTION 26 05 26

SECTION 26 05 33

RACEWAYS AND BOXES

PART 1 - GENERAL

1.1 SCOPE

A. Perform all Work required to provide and install the following conduits, surface raceways, multi-outlet assemblies, auxiliary gutters, wall duct, and boxes for electrical systems including wall and ceiling outlet boxes, floor boxes, and junction boxes.

1.2 REFERENCES

A. Applicable provisions of Division 1 govern work under this section.

1. Section 262726 – Wiring Devices.

2. Section 262702 – Equipment Wiring.

PART 2 - PRODUCTS

2.1 RIGID METAL CONDUIT AND FITTINGS

A. Conduit: Heavy wall, galvanized steel, schedule 40, threaded.

B. Fittings and Conduit Bodies: Use all steel threaded fittings and conduit bodies.

2.2 PVC COATED RIGID METAL CONDUIT

A. PVC Externally Coated Conduit: Rigid heavy wall, schedule 40, steel conduit with external 40 mil PVC coating. Conduit must be hot dipped galvanized inside and out including threads. The PVC coating bond to the galvanized steel conduit shall be stronger than the tensile strength of the coating itself.

B. Fittings and Conduit Bodies: Threaded type, material to match conduit. PVC coated fittings and couplings shall have specially formed sleeves to tightly seal to conduit PVC coating. The sleeves shall extend beyond the fitting or coupling a distance equal to the pipe outside steel diameter or two inches whichever is greater.

2.3 INTERMEDIATE METAL CONDUIT (IMC) AND FITTINGS

A. Conduit: Galvanized steel, threaded.

B. Fittings and Conduit Bodies: Use all steel threaded fittings and conduit bodies.

2.4 ELECTRICAL METALLIC TUBING (EMT) AND FITTINGS

A. Conduit: Steel, galvanized tubing.

B. Fittings:

1. All steel, set screw, concrete tight. No push-on or indenter types permitted.

2. Raintight Fittings:

a. All steel construction with zinc electroplate finish provides for durable corrosion resistance
b. Distinct color to provide quick raintight identification
c. Integral gasketed compression ring secures and seals for reliable installation
d. Gasket on male threads of box connector seals installation for raintight connection between the box and the connector

C. Conduit Bodies: All steel threaded conduit bodies.

2.5 FLEXIBLE METAL CONDUIT AND FITTINGS

A. Conduit: steel, galvanized, spiral strip.

B. Fittings and Conduit Bodies: All steel, galvanized, or malleable iron (except as allowed in Specification 265113).

2.6 LIQUIDTIGHT FLEXIBLE METAL CONDUIT AND FITTINGS

A. Conduit: flexible, steel, galvanized, spiral strip with an outer Liquidtight, nonmetallic, sunlight-resistant jacket.

B. Fittings and Conduit Bodies: ANSI/NEMA FB 1, compression type. There shall be a metallic cover/insert on the end of the conduit inside the connector housing to seal the cut conduit end.

2.7 RIGID NONMETALLIC CONDUIT AND FITTINGS

A. Conduit: Schedule 40 PVC minimum, Listed, sunlight resistant, rated for 90° C conductors.

B. Fittings and Conduit Bodies: NEMA TC 2, Listed.

2.8 OUTLET BOXES

A. Sheet Metal Outlet Boxes: galvanized steel, with stamped knockouts.

B. Luminaire and Equipment Supporting Boxes: Rated for weight of equipment supported; include 3/8 inch male fixture studs where required.

C. Cast Boxes: Cast ferroalloy, or aluminum type deep type, gasketed cover, threaded hubs.

2.9 PULL AND JUNCTION BOXES

A. Pull boxes and junction boxes shall be minimum 4 inch square by 2 1/8th inches deep for use with 1 inch conduit and smaller. On conduit systems using 1 1/4 inch conduit or larger, pull and junction boxes shall be sized per NEC but not less than 4 11/16 inch square.

B. Sheet Metal Boxes: code gauge galvanized steel, screw covers, flanged and spot welded joints and corners.

C. Sheet metal boxes larger than twenty-four (24) inches in any dimension shall have a hinged cover or a chain installed between box and cover.

D. Cast Metal Boxes for Outdoor and Wet Location Installations: Type 4 and Type 6, flat-flanged, surface-mounted junction box, UL listed as raintight. Galvanized cast iron or aluminum box and cover with ground flange, neoprene gasket, and stainless steel cover screws.

E. Fiberglass or Concrete Handholes:

1. With weatherproof cover of non-skid finish shall be used for underground installations.

2. Size, type, weight rating, and labeling shall be as noted on the drawings.

F. The use of box extension rings is discouraged. If they must be used only one ring per box is allowed and wiring must extend a minimum of 6” beyond the front edge of the extension ring.

G. Box extensions and adjacent boxes within 48” of each other are not allowed for the purpose of creating more wire capacity.

H. Junction boxes 6" x 6" or larger size shall be without stamped knock-outs.

2.10 GENERAL

A. All steel fittings and conduit bodies shall be galvanized.

B. No cast metal or split-gland type fittings permitted.

C. Mogul-type condulets larger than two (2) inch not permitted except as approved or detailed.

D. All condulet covers must be fastened to the condulet body with screws and be of the same manufacture.

E. Wireways, gutters and c-condulets shall not be used in lieu of pull boxes and condulets.

F. All boxes shall be of sufficient size to provide free space for all conductors enclosed in the box and shall comply with NEC requirements.

PART 3 - EXECUTION

3.1 CONDUIT SIZING, ARRANGEMENT, AND SUPPORT

A. EMT is permitted to be used in sizes 4" and smaller for power. See CONDUIT INSTALLATION SCHEDULE below for other limitations for EMT and other types of conduit.

B. Size power conductor raceways for conductor type installed. Conduit size shall be 1/2 inch minimum except all homerun conduits shall be 3/4”, or as specified elsewhere. Caution: Per the NEC, the allowable conductor ampacity is reduced when more than three (3) current-carrying conductors are

installed in a raceway. Contractor must take the NEC ampacity adjustment factors into account when sizing the raceway and wiring system.

C. Size conduit for all other wiring, including but not limited to data, control, security, fire alarm, telecommunications, signal, video, etc. shall be sized per number of conductors pulled and their cross-section. 40% fill shall be maximum for all new conduit fills.

D. Arrange conduit to maintain headroom and present a neat appearance.

E. Route exposed conduit and conduit above accessible ceilings parallel and perpendicular to walls and adjacent piping.

F. Maintain minimum six (6) inch clearance between conduit and piping. Maintain twelve (12) inch clearance between conduit and heat sources such as flues, steam pipes, and heating appliances.

G. Arrange conduit supports to prevent distortion of alignment by wire pulling operations. Fasten conduit using galvanized pipe straps, conduit racks (lay-in adjustable hangers), clevis hangers, or bolted split stamped galvanized hangers.

H. Group conduit in parallel runs where practical and use conduit rack (lay-in adjustable hangers) constructed of steel channel with conduit straps or clamps. Provide space for 25 percent additional conduit.

I. Do not fasten conduit with wire or perforated pipe straps. Before conductors are pulled, remove all wire used for temporary conduit support during construction.

J. Support and fasten metal conduit at a maximum of eight (8) feet on center.

K. Supports shall be independent of the installations of other trades, e.g. ceiling support wires, HVAC pipes, other conduits, etc., unless so approved or detailed.

L. In general, all conduits shall be concealed except where noted on the drawings or approved by the Architect/Engineer. Contractor shall verify with Architect/Engineer all surface conduit installations except in mechanical, electrical or utility rooms that are not occupied spaces.

M. Changes in direction shall be made with symmetrical bends, cast steel boxes, stamped metal boxes or cast steel conduit bodies.

3.2 CONDUIT INSTALLATION

A. Ground and bond conduit under provisions of Section 260526.

B. Cut conduit square; de-burr cut ends.

C. Conduit shall not be fastened to the corrugated metal roof deck.

D. Bring conduit to the shoulder of fittings and couplings and fasten securely.

E. Use conduit hubs for fastening conduit to cast boxes. Use sealing locknuts or conduit hubs for fastening conduit to sheet metal boxes in damp or wet locations.

F. All conduit terminations (except for terminations into conduit bodies) shall use conduit hubs, or connectors with one (1) locknut, or shall use double locknuts (one (1) each side of box wall) and insulated bushing. Provide bushings for the ends of all conduit not terminated in box walls. Refer to Section 260526 – Grounding and Bonding for Electrical Systems for grounding bushing requirements.

G. Install no more than the equivalent of four (4) 90 degree bends between boxes.

H. Use hydraulic one (1)-shot conduit bender or factory elbows for bends in conduit larger than two (2) inch size unless sweep elbows are required.

I. Conduit shall be bent according to manufacturers' recommendations. Torches or open flame shall not be used to aid in bend of PVC conduit.

J. Use suitable conduit caps or other approved seals to protect installed conduit against entrance of dirt and moisture.

K. Provide 1/8 inch nylon pull string in empty conduit, except sleeves and nipples.

L. Install expansion-deflection joints where conduit crosses building expansion joints. Note: expansion-deflection joints are not required where conduit crosses building control joints if the control joint does not act as an expansion joint. Install expansion fitting in PVC conduit runs as recommended by the manufacturer.

M. Avoid moisture traps where possible. Where moisture traps are unavoidable, provide junction boxes with drain fittings at conduit low points.

N. Where conduit passes between areas of differing temperatures such as into or out of unheated and heated spaces, buildings, etc., provide Listed conduit seals to prevent the passage of moisture and water vapor through the conduit.

O. Route conduit through roof openings for piping and ductwork where possible.

P. Conduit is not permitted in any slab topping of two inches or less. Consult Structural Engineer for approval of conduit installed in topping slabs greater than two inches.

Q. PVC conduit shall transition to galvanized rigid metal conduit before it enters a concrete pole base, foundation, wall (where exposed) or up through a concrete floor.

R. All conduit installed underground (exterior to building) shall be buried a minimum of 24" below finished grade, whether or not the conduit is concrete encased.

1. All underground conduits shall be installed with "DANGER – BURIED ELECTRICAL CONDUIT" red flagging tape 6-inches above conduit. Tape shall be continuous along the conduit run.

2. Tracer wire shall be installed on all exterior electrical utilities. Trace wire to be fourteen (14) gauge minimum solid copper with thermoplastic insulation recommended for direct burial. Wire connectors to be 3M DBR, or approved equal, and shall be watertight to provide electrical continuity. Install trace wire in the same trench with the conduit during installation and secure to conduit as required to ensure that the wire remains adjacent to the conduit. Trace wire access points shall in general be no more than 500' apart.

S. PVC conduit shall be cleaned with solvent, and dried before application of glue. The temperature rating of glue/cement shall match weather condition. Apply full even coat of cement/glue to entire area that will be inserted into fitting. The entire installation shall meet manufacturers' recommendations.

3.3 CONDUIT INSTALLATION SCHEDULE

A. Conduit other than that specified below for specific applications shall not be used.

B. Conduit in patient care areas shall be metallic to maintain dual ground paths as required by the NEC.

C. Underground Installations Within Five Feet of Foundation Wall: Rigid steel conduit.

D. Underground Installations More than Five Feet From Foundation Wall: Schedule 40 PVC conduit.

E. Directional Boring: HDPE conduit.

F. Exposed Outdoor Locations: Rigid steel conduit

G. Concealed in Concrete and Block Walls: Electrical metallic tubing.

H. Within Concrete Slab: Schedule 40 PVC conduit.

3.4 OUTLET BOX INSTALLATION

A. Provide outlet boxes in finished areas; secure boxes to wall and partition studs, accurately positioning to allow for surface finish thickness. The front edge of the box, plaster ring, extension ring, or listed extender shall not be set back of the finished wall surface more than ¼" in accordance with NEC 314.20. Use stamped steel stud bridges for flush outlets in hollow stud wall, and adjustable steel channel fasteners for flush ceiling outlet boxes.

B. Do not install boxes back-to-back in walls. Provide minimum 6 inch separation, except provide minimum 24 inch separation in acoustic-rated walls.

C. Power

1. Recessed (1/4" maximum) outlet boxes in masonry, concrete or tile construction shall be minimum 4 inch square, with device rings. Device covers shall be square-cut except rounded corner plaster rings are allowed in drywall applications. Angle cut plaster rings are not permitted. Coordinate masonry cutting to achieve neat openings for boxes.

D. Provide knockout closures for unused openings.

E. Support boxes independently of conduit except for cast boxes that are connected to two (2) rigid metal conduits, both supported within twelve (12) inches of box.

F. Use multiple-gang boxes where more than one device are mounted together; do not use sectional boxes. Provide non-metallic barriers to separate wiring of different voltage systems.

G. Install boxes in walls without damaging wall insulation.

H. Coordinate mounting heights and locations of outlets mounted above counters, benches, and backsplashes.

I. Provide cast ferroalloy or aluminum outlet boxes in exterior and wet locations.

3.5 PULL AND JUNCTION BOX INSTALLATION

A. Locate pull boxes and junction boxes above accessible ceilings, in unfinished areas or furnish and install access panels in non-accessible ceilings where boxes are installed. All boxes are to be readily-accessible.

B. Support pull and junction boxes independent of conduit.

END OF SECTION 26 05 33

SECTION 260553

IDENTIFICATION

PART 1 - GENERAL

1.1 SCOPE

A. Perform all Work required to provide and install the labeling of power, lighting, general wiring, signal, fire alarm, and cabling.

1.2 REFERENCES

A. Applicable provisions of Division 1 shall govern work under this section.

B. Section 260519 – Low Voltage Electrical Power Conductors and Cables

PART 2 - PRODUCTS

2.1 MATERIALS

A. Labels: All labels shall be permanent, and machine generated. NO HANDWRITTEN OR NON-PERMANENT LABELS ARE ALLOWED. Exception: Back side of device plates and junction boxes may use handwritten, legible labeling on box covers, unless specifically prohibited by other specification sections.

B. Cable label size shall be appropriate for the conductor or cable size(s), outlet faceplate layout and patch panel design. All labels shall be self-laminating, white/transparent vinyl and be wrapped around the cable or sheath. Labels for power conductors (600V and lower) shall be cloth-type. Flag type labels are not allowed. The labels shall be of adequate size to accommodate the circumference of the cable being labeled and properly self-laminate over the full extent of the printed area of the label.

C. Nameplates: Engraved three-layer laminated plastic, white letters on a black background. Emergency system (Level 1 and Level 2) shall use white letters on red background.

D. Tape (phase identification only): Scotch #35 tape in appropriate colors for system voltage and phase.

E. Adhesive type labels not permitted except for phase and wire identification. Machine generated adhesive labels shall be permitted for device plates, 4-11/16” and smaller junction boxes, fire alarm and control devices.

PART 3 - EXECUTION

3.1 GENERAL

A. All branch circuit and power panels must be identified with the same symbol used in circuit directory in main distribution center.

B. Clean all surfaces before attaching labels with the label manufacturer’s recommended cleaning agent.

C. Install all labels firmly as recommended by the label manufacturer.

D. Labels shall be installed plumb and neatly on all equipment.

E. Install nameplates parallel to equipment lines.

F. Secure nameplates to equipment fronts using screws, rivets or manufacturer approved adhesive or cement.

G. Embossed tape will not be permitted for any application.

3.2 POWER AND CONTROL WIRE IDENTIFICATION

A. Provide wire markers on each conductor in panelboard gutters, pull boxes, outlet and junction boxes, and at load connection. Identify with branch circuit or feeder number for power and lighting circuits, and with control wire number as indicated on schematic and interconnection diagrams or equipment manufacturer's shop drawings for control wiring.

B. All wiring shall be labeled within 2 to 4 inches of terminations. Each end of a wire or cable shall be labeled as soon as it is terminated including wiring used for temporary purposes.

3.3 WIRING DEVICE IDENTIFICATION

A. Wall switches, line voltage wall dimmers, motor switches, receptacles (interior, exterior, floor boxes, etc.), photocells and time clocks shall be identified with circuit numbers and source. Labeling shall be permanent and machine generated. Label shall have 1/4" black text on a clear label. Label shall be installed at consistent location on the face of the device cover plate.

3.4 PANELBOARD DIRECTORIES

A. Typed directories for panels must be covered with clear plastic, have a metal frame. Room number on directories shall be Owner's numbers, not Plan numbers unless Owner so specifies.

END OF SECTION 26 05 53

SECTION 262726

WIRING DEVICES

PART 1 - GENERAL

1.1 SCOPE

A. Perform all Work required to provide and install the following wiring devices indicated by the Contract Documents with supplementary items necessary for proper installation.

B. Equipment included in this Section

1. Receptacles

2. Time clocks

1.2 REFERENCES

A. Applicable provisions of Division 1 govern work under this Section.

1.3 SUBMITTALS

A. Provide product data showing model numbers, configurations, finishes, dimensions, and manufacturer's instructions.

1.4 OPERATION AND MAINTENANCE DATA

A. All operations and maintenance data shall comply with the submission and content requirements specified under section GENERAL REQUIREMENTS.

PART 2 - PRODUCTS

2.1 GENERAL

A. All materials shall meet or exceed all applicable referenced standards, federal, state, and local requirements, and shall conform to codes and ordinances of authorities having jurisdiction.

B. Provide factory fabricated wiring devices in the type and electrical rating for the service indicated. Where type and grade are not indicated provide proper selection to correspond with branch circuit wiring and overcurrent protection.

C. Attachment of wires to devices shall be by screw pressure under the head of binding screws. Arrangements depending on spring pressure or tension are not acceptable. All binding screws shall be brass or bronze.

D. See Drawings for Device Schedule.

2.2 DEVICE COLOR

A. Gray, unless noted otherwise.

2.3 STRAIGHT-BLADE RECEPTACLES

A. Nylon or high impact resistant face, NEMA configuration as scheduled on the Drawings.

B. Receptacles shall be UL498 Listed and meet Federal Specification WC-596.

C. All receptacles shall be back and side wired, screw clamp type, suitable for solid or stranded wire up to #10 AWG, with a separate green ground screw. Connector-type receptacles are also acceptable.

2.4 GROUND FAULT CIRCUIT INTERRUPTER (GFCI) RECEPTACLES

A. Duplex convenience receptacle, Specification Grade, with integral ground fault current interrupter, auto monitoring (self-test), and line-load reversal function meeting the requirements of UL standard 943 Class A and UL standard 498.

B. All receptacles installed in outdoor locations, in garages, within six (6) feet of the outside edge of sinks, and in other damp or wet locations shall be GFCI type.

2.5 TAMPER RESISTANT RECEPTACLES

A. Tamper resistant receptacles shall be similar to standard receptacles except for the addition of a shutter system that blocks access to the phase and neutral plug slots while the device is not in use.

2.6 COMBINATION USB CHARGER RECEPTACLES

A. Standard AC duplex tamper resistant receptacle with two (2) USB charging ports (Type-A and/or Type-C as noted in the schedule) rated at a minimum of 3.0 A at 5 VDC, UL Listed to UL 498 and UL 1310.

B. Receptacle shall be UL 498 and UL 1310 Listed and meet Federal Specification WC596.

C. USB ports shall work with USB 2.0, 3.0, and 3.1 compatible devices.

D. Device shall have auto grounding feature.

E. Receptacle shall be back and side wired, screw clamp type, suitable for solid or stranded wire up to #10 AWG, with a separate green ground screw.

F. Hospital grade receptacles shall be tested and listed according to applicable standards and shall be readily identified on the face of the device by a green dot.

2.7 TIME CLOCKS

A. Unit shall be a multi-purpose, seven (7) day, 365 day advance single, and skip a day, combination two (2)-channel electronic time clock with a SPDT switching configuration and astronomic dial.

B. The contacts shall be rated 30 amp resistive at 120/250 VAC, 7.5 amps inductive at 120/240 VAC, 5 amps inductive at 30 VDC and up to 1/2 hp at 250 VAC. The unit shall be rate for 30 VDC, 120 VAC, 250 VAC and 277 VAC.

C. The controller shall be capable of programming in the AM/PM or 24 hour format by jumper selection, in one (1) minute resolution, using two (2) buttons only for all basic settings.

D. Display shall be LED type.

E. The unit shall have 365 day and or holiday selection capabilities, with sixteen (16) single date and five (5) holiday selection options and user selectable daylight savings/standard time functions.

F. The unit shall have 72 hour memory backup with rechargeable battery and charger.

G. The unit shall be capable of manual override, On and OFF to the next scheduled event, using one (1) button for each channel.

H. The enclosure shall be rated for indoor or outdoor installation.

PART 3 - EXECUTION

3.1 INSTALLATION

A. All dimensions noted are centerline dimensions.

B. Install wall switches 42 inches above floor, OFF position down.

C. Install convenience receptacles 18 inches above floor, 6 inches above counters or backsplash, grounding pole on bottom. Mount horizontally where indicated.

D. Install decorative plates on switch, receptacle, and blank outlets in finished areas.

E. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface-mounted outlets.

F. Install devices and wall plates flush and level.

G. Receptacles shall have a bonding conductor from grounding terminal to the metal conduit system. Self-grounding receptacles using mounting screws as bonding means are not approved.

3.2 FIELD QUALITY CONTROL

A. Inspect each wiring device for defects.

B. Operate each wall switch with circuit energized and verify proper operation.

C. Verify that each receptacle device is energized.

D. Test each receptacle device for proper polarity.

E. Test each GFCI receptacle device for proper operation.

3.3 ADJUSTING

A. Adjust devices and wall plates to be flush and level.

B. Mark all conductors with the panel and circuit number serving the device with a machine generated label, at the device, and on the back of the device cover.

END OF SECTION 26 27 26

SECTION 26 56 29

SITE LIGHTING

PART 1 - GENERAL

1.1 SCOPE

A. Perform all Work required to provide and install site lighting indicated by the Contract Documents with supplementary items necessary for proper installation.

B. Equipment included in this Section

1. Exterior luminaires and accessories

2. Poles

3. Foundations

1.2 REFERENCES

A. Applicable provisions of Division 1 govern work under this Section.

1.3 SUBMITTALS

A. Shop Drawings: Indicate dimensions and components for each luminaire, pole and base.

B. Product Data: Provide dimensions, ratings, performance data, lamp and ballast data, weights and accessory information for each type.

C. Manufacturer's Instructions:

1. Indicate application conditions and limitations of use stipulated by product testing agency specified under "Regulatory Requirements".

2. Include instructions for storage, handling, protection, examination, preparation, installation, and starting of product.

1.4 PROJECT RECORD DOCUMENTS

A. Accurately record actual locations of each luminaire, pole and underground circuit.

B. Provide record drawings of the final, as installed and measured, point to point foot-candle layout for each area involved.

1.5 OPERATION AND MAINTENANCE DATA

A. All operations and maintenance data shall comply with the submission and content requirements specified under section GENERAL REQUIREMENTS.

1.6 COORDINATION

A. Use bolt templates and pole mounting accessories to install anchor bolts in pole base.

1.7 WARRANTY

A. All equipment shall be warranted to be free of defects in materials and workmanship by the manufacturer for the time period listed below from the date of project substantial completion:

1. LED luminaires (including LED power supply): Five (5) years

2. Pole (including pole finish): Five (5) years

PART 2 - PRODUCTS

2.1 LUMINAIRES

A. Furnish products as specified in schedule on Drawings.

2.2 POLES

A. Furnish products as specified in schedule on Drawings.

B. Handhole: With removable weatherproof cover.

C. Anchor Bolts: As recommended by pole manufacturer. Provide template, flat washers, lock washers, and hex nuts for each pole.

2.3 POLE FOUNDATIONS

A. Construct from reinforced concrete in sizes as shown on drawings and to meet the minimum structural requirements of the site soil conditions.

B. Provide 3/4" X 10'0" ground rod in the pole foundation so that the ground rod projects 3" up into center of pole base.

C. The exposed surface area of the foundation shall have the forms removed and the concrete rubbed out to a smooth finish.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install in accordance with manufacturers' instructions.

B. Minimum underground conduit size is 1 inch.

C. Underground and exterior wire shall be type XHHW-2.

D. Project anchor bolts 2 inches (50 mm) minimum above base.

E. Install all anchor bolts and handhole fasteners with anti-seize compound.

F. Install poles plumb. Provide shims or double nuts to adjust plumb.

G. Use belt slings or non-chafing ropes to raise and set pre-finished luminaire poles.

H. Bond each luminaire, each metal accessory, the ground rod and the pole to the branch circuit equipment ground conductor with a separate ground wire sized per NEC or as shown on the drawings.

3.2 FIELD QUALITY CONTROL

A. Operate each luminaire after installation and connection. Inspect for improper connections and operation.

3.3 ADJUSTING

A. Aim and adjust luminaires as indicated on Drawings or as directed by the A/E.

B. All new lamps shall be operational at the Substantial Completion of the project.

3.4 CLEANING

A. Clean photometric control surfaces.

B. Clean finishes and touch up damage.

END OF SECTION 26 56 29

SECTION 26 56 68

EXTERIOR ATHLETIC LIGHTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes lighting for the following outdoor sports venues:

1. Tennis and Pickleball Courts

1.2 DEFINITIONS

A. Coefficient of Variation (CV): A statistical measure of the weighted average of all relevant illumination values for the playing area, expressed as the ratio of the standard deviation for all illuminance values to the mean illuminance value.

B. Fixture: See "Luminaire."

C. Illuminance: The metric most commonly used to evaluate lighting systems. It is the density of luminous flux, or flow of light, reaching a surface divided by the area of that surface.

1. Horizontal Illuminance: Measurement in foot-candles (lux), on a horizontal surface 36 inches (914 mm) above ground unless otherwise indicated.
2. Target Illuminance: Average maintained illuminance level, calculated by multiplying initial illuminance by LLF.
3. Vertical Illuminance: Measurement in foot-candles (lux), in [two] [four] directions on a vertical surface, at an elevation coinciding with plane height of horizontal measurements.

D. LC: Lighting Certified.

E. Light-Loss Factor (LLF): A factor used in calculating the level of illumination after a given period of time and under given conditions. It takes into account temperature, dirt accumulation on the luminaire, lamp depreciation, maintenance procedures, and atmospheric conditions. An LLF includes a recoverable light-loss factor.

F. Luminaire: A complete lighting unit, internally lighted exit sign, or emergency lighting unit. Luminaires include lamps and the parts required to distribute light, position and protect lamps, and connect lamps to power supply. Note that "fixture" and "luminaire" may be used interchangeably and the "IES Lighting Handbook" uses "luminaire" over "fixture."

G. Pole: Luminaire support structure, including tower used for large area illumination.

H. Uniformity Gradient (UG): The rate of change of illuminance on the playing field, expressed as a ratio between the illuminances of adjacent measuring points on a uniform grid.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of lighting product.

B. For exterior athletic lighting indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1. Drawings and specifications for construction of lighting system.

2. Manufacturer's determination of LLF used in design calculations.

3. Lighting system design calculations for the following:

   a. Target illuminance.
   b. Point calculations of horizontal illuminance, CV, and UG at minimum grid size and area.
   c. Point calculations of horizontal illuminance in indicated areas of concern for spill light.

4. Electrical system design calculations for the following:

   a. Total connected and estimated peak-demand electrical load, in kilowatts, of lighting system.
   b. Capacity of feeder required to supply lighting system.

5. Wiring requirements, including required conductors, cables, and wiring methods.

6. Structural analysis data and calculations used for pole selection.

   a. Manufacturer Wind-Load Strength Certification: Submit certification that selected total support system, including poles, complies with AASHTO LTS-6-M for location of Project.

1.4 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Plans drawn to scale and coordinated.

B. Field quality-control reports

C. Sample warranty

1.5 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

1.6 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of luminaires, lamps, and luminaire alignment products and to correct misalignment that occurs subsequent to successful acceptance tests. Manufacturer may exclude lightning damage, hail damage, vandalism, abuse, and unauthorized repairs and alterations from special warranty coverage.

B. Warranty Period: Twenty-five (25) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Musco

B. Cooper Ephesus

2.2 PERFORMANCE REQUIREMENTS

A. Illumination Criteria:

1. Minimum average target illuminance level for each lighted area for each sports venue and for the indicated class of play according to IES RP-6.

2. CV and maximum-to-minimum uniformity ratios for each lighted area equal to or less than those listed in IES RP-6 for the indicated class of play.

3. UG levels within each lighted area equal to or less than those listed in IES RP-6 for the indicated speed of sport.

B. Illumination Calculations: Computer-analyzed point method complying with IES RP-6 to optimize selection, location, and aiming of luminaires.

1. Grid Pattern Dimensions: For playing areas including bleachers, bullpens, and batting cages of each sport and areas of concern for spill-light control, correlate and reference calculated parameters to the grid areas. Each grid point represents the center of the grid area defined by the length and width of the grid spacing.

2. Spill-Light Control: Minimize spill light for each playing area on adjacent and nearby areas.

3. Glare Control: Design illumination for each playing area to minimize direct glare in adjacent and nearby areas.

a. Design source intensity of luminaires that may be observed at an elevation of 60 inches above finished grade from nearby properties to be less than 30,000 candela when so observed.

4. Luminaire-Mounting Height: Comply with IES RP-6, with consideration for requirements to minimize spill light and glare.

5. Luminaire Placement: Luminaire clusters shall be outside the glare zones defined by IES RP-6.

C. Outdoor Tennis Courts:

1. IESNA RP-6, Class of Play: IV.

2. Speed of Sport: Moderate.

3. Grid Pattern Dimensions: 10 by 10 feet (3 by 3 m).

D. Lighting Control: Manual, low voltage, or digital; providing the following functions, integrated into a single control station, with multiple subcontrol stations as indicated:

1. Control Station: Key-operated master switch, manual push-button controls, and system status indicator lights.

E. Electric Power Distribution Requirements

1. Electric Power: 240 V; single phase.

a. Include roughing-in of service indicated for nonsports improvements on Project site.
b. Balance load between phases. Install wiring to balance three phases at each support structure.
c. Include required overcurrent protective devices and individual lighting control for each sports field or venue.
d. Include indicated feeder capacity and panelboard provisions for future lighted sports field construction.

2.3 LUMINAIRES, LAMPS, AND BALLASTS

A. Luminaires: Complying with requirements described in Section 265629 "Site Lighting."

1. Listed and labeled, by an NRTL acceptable to authorities having jurisdiction, for compliance with UL 1598 for installation in wet locations.

2. Doors, Frames, and Other Internal Access: Smooth operating, free from light leakage under operating conditions, and arranged to permit relamping without using tools. Arrange doors, frames, lenses, diffusers, and other pieces to prevent their accidental falling during relamping and when secured in operating position. Doors shall be removable for cleaning or replacing lens.

3. Exposed Hardware: Stainless-steel latches, fasteners, and hinges.

4. Spill-Light Control Devices: Internal louvers and external baffles furnished by manufacturer and designed for secure attachment to specific luminaire.

2.4 SUPPORT STRUCTURES

A. Support Structures: Steel poles and other support structures, brackets, arms, appurtenances, bases, anchorages and foundations as complying with requirements described in Section 265613 "Lighting Poles and Standards."

2.5 POWER DISTRIBUTION AND CONTROL

A. Wiring Method for Feeders, Subfeeders, Branch Circuits, and Control Wiring: Underground nonmetallic raceway; No. 10 AWG minimum conductor size for power wiring.

B. Overhead-, pole-, or structure-supported wiring and transformers are not permitted.

C. Electrical Enclosures Exposed to Weather: NEMA 250, Type 3R enclosure constructed from stainless steel, with hinged doors fitted with padlock hasps or lockable latches.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with NECA 1.

B. Wiring Method: Install cables in raceways, except when cables are installed within boxes and poles. Conceal raceways and cables.

1. Comply with requirements in Section 260519 "Low-Voltage Electrical Power Conductors and Cables" and Section 260533 "Raceways and Boxes for Electrical Systems" for wiring connections and wiring methods.

C. Use web fabric slings (not chain or cable) to raise and set structural members. Protect equipment during installation to prevent corrosion.

D. Install poles and other structural units level, plumb, and square.

E. Except for embedded structural members, grout void between pole base and foundation. Use nonshrinking or expanding concrete grout firmly packed in entire void space. Use a short piece of 1/2-inch-diameter pipe to make a drain hole through grout. Arrange to drain condensation from interior of pole. Nonshrink grout is specified in Section 055000 "Metal Fabrications."

F. Install controls and ballast housings in cabinets mounted on support structure at least 10 feet above finished grade.

G. Identify system components, wiring, cabling, and terminals. Comply with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

3.2 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. After installing sports lighting system and after electrical circuits have been energized, perform proof-of-performance field measurements and analysis for compliance with requirements.

2. Make field measurements at established test points in areas of concern for spill light and glare.

3. Perform analysis to demonstrate correlation of field measurements with specified illumination quality and quantity values and corresponding computer-generated values that were submitted with engineered design documents. Submit a report of the analysis. For computer-generated values, use manufacturer's lamp lumens that are adjusted to lamp age at time of field testing.

B. Correction of Illumination Deficiencies for Playing Areas: Make corrections to illumination quality or quantity, measured in field quality-control tests, that varies from specified illumination criteria by plus or minus 10 percent.

1. Add or replace luminaires; change mounting height and aiming; or install louvers, shields, or baffles.

2. If luminaires are added or mounting height is changed, revise aiming and recalculate and modify or replace support structures if indicated.

3. Do not replace luminaires with units of higher or lower wattage without Engineer's approval.

4. Retest as specified above after repairs, adjustments, or replacements are made.

5. Report results in writing.

C. Correction of Excessive Illumination in Spill-Light-Critical Areas: If measurements indicate that specified limits for spill light are exceeded, make corrections to illumination quantity, measured in field quality-control tests, that reduce levels to within specified maximum values.

1. Replace luminaires; change mounting heights and revise aiming; or install louvers, shields, or baffles.

2. Obtain Architect's approval to replace luminaires with units of higher or lower wattage.

3. If mounting height is changed, revise aiming and recalculate and modify or replace support structures if indicated.

4. Retest as specified above after repairs, adjustments, or replacements are made.

5. Report results in writing.

D. Sports lighting will be considered defective if it does not pass tests and inspections.

E. Prepare test and inspection reports.

END OF SECTION 26 56 68

SECTION 32 18 23

ACRYLIC TENNIS COURT SURFACING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes labor, material, equipment, and accessories to complete the following Work:

1. Acrylic tennis and pickleball court finish system, consisting of a minimum of two acrylic filler coats and two acrylic color coats.

2. Permanent tennis and pickleball court lining and markings, including USTA regulation singles and doubles court striping.

1.2 SUBMITTALS

A. Submit product data for approval including manufacturer specifications for components, color chart, coating samples, textured colored samples, and installation instructions.

B. Submit Technical Data Sheets (TDS) and Color Chart.

1. Submit samples of color to Engineer for review and approval by Owner prior to application.

C. Submit the recorded batch number of each product used on the site.

D. Submit an estimate of the volume of each product to be used on the site.

1.3 QUALITY ASSURANCE

A. The surfacing system shall be completely furnished and installed by an authorized installer of material manufacturer. Installer shall have not less than 5 years' experience in the application of tennis court finishing systems and shall have satisfactorily completed at least 5 similar installations using product which is being installed.

B. Surfacing shall conform to the guidelines of the ASBA for planarity.

C. All surface coatings products shall be supplied by a single manufacturer.

D. The installer shall be an authorized applicator of the specified system.

1.4 SITE CONDITIONS

A. Environmental Requirements: Follow manufacturer's recommendations and guidelines for disposal of unused materials.

PART 2 - PRODUCTS

2.1 TENNIS COURT FINISHING PRODUCTS

A. Acceptable coating system as follows or approved equal:

1. Advanced Polymer Technology Corp., Harmony PA; "Laykold Advantage System"

(a) Coat 1 (Primer): Laykold LM Bond-Kote (adhesion primer).

(1) A one-component, PU/Acrylic hybrid emulsion used as a permeable concrete adhesion promoter. LM Bond-Kote is diluted 1 part LM Bond-Kote to 5 parts portable water and mixed until uniform.

(2) Percent Solids by weight: 48% (minimum)

(3) Weight: 8.9 lbs/gallon

(b) Coat 2 (Filler): Laykold Acrylic Resurfacer

(1) Acrylic-based emulsion used for smoothing rough pavements. 1 to 2-coats as needed. Laykold NuSurf is recommended for use on new asphalt pavements and is an acceptable substitute for Acrylic Resurfacer. Laykold NuSurf is not recommended on concrete substrates.

(2) Percent Solids by Weight 52% (minimum)

(3) Weight 10.68 lbs/gallon

(c) Coat 3 (Color Coat): Laykold Advantage (factory textured).

(1) Textured batch mixture. Pigmented wear-resistant acrylic emulsion. 2-coats required.

(2) Percent Solids by Weight 49% (minimum)

(3) Weight: 12.9 (+/- 3) lbs/gallon

B. Line Marking:

1. Primer:

(a) Laykold Line Prime. Clear drying acrylic emulsion line primer.

2. Lining:

(a) Laykold Textured White Line Paint. Factory textured, wear-resistant acrylic emulsion line marking paint.

2.2 WATER

A. Water used in all mixtures shall be fresh and potable.

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

A. Concrete substrates shall be allowed to cure a minimum of 30 days before application of coating system.

B. Minimum requirements for finish of concrete substrate are medium broom finish and acid etching per manufacturer requirements.

C. Prior to application of acrylic system, contractor shall review concrete surface and notify landscape architect of any conditions not adhering to manufacturer recommendations.

D. Prior to applying coating system, the full fencing system shall be installed.

E. The substrate shall be CLEAN and DRY before coatings are applied. The surface of the substrate shall be inspected and made sure to be free of grease, oil, dust, dirt and other foreign matter before any coatings is applied.

F. No part of the surfacing system shall be applied during a rainfall, or when rainfall is imminent.

G. Do not apply coatings to a cold surface.

H. Surface and air temperatures must be a minimum of 50°F and rising. A minimum temperature of 50°F must be maintained during the entire installation process to include 24-hours before and after the installation.

I. Shaded areas will be cooler with slower curing times. Special precautions should be taken to ensure all coatings cure sufficiently prior to application of additional coatings.

J. Do not apply coatings if extremely high humidity prevents drying.

K. No coatings shall be applied if surface temperature exceeds 130°F.

L. All materials shall be delivered to the job site in sealed containers with the manufacturer's label affixed.

M. Color(s) of acrylic color coating system are to be selected by landscape architect from manufacturer's product color card(s). Contractor to submit color samples for review and selection by the landscape architect.

3.2 APPLICATION OF FINISH SYSTEM

A. Application of coating system and lines shall be accomplished to achieve International Tennis Foundation (ITF) Classified Court Pace 4 (Medium Fast).

B. Filler Coat:

1. Apply two coats of filler with a 70 Durometer flexible rubber squeegee in accordance with manufacturer's directions and recommended rate of application.

2. Each coat shall be completely dry before applying subsequent coats.

3. If concrete surface course is not covered to a uniform, even texture, free of porosity, apply an additional filler coat to attain uniformity.

4. Dilution rate shall not exceed that recommended by product manufacturer.

C. Color Coat:

1. Prior to applying color coat, carefully inspect entire surface and remove ridges and loose or foreign particles.

2. Apply two color coats in accordance with manufacturer's directions and recommended rate of application.

3. The application shall be made lengthwise of the courts with a 50 Durometer flexible rubber squeegee and finished with a wide hair-type push broom, specifically manufactured for tennis court surfacing material application.

4. The color shall be uniform throughout when viewed from a distance of 25 feet from any edge of the court at mid-day.

5. Dilution rate shall not exceed that recommended by product manufacturer.

D. Lines

1. Playing lines shall be 2" wide, accurately located and marked in accordance with rules of the U.S. Tennis Association.

2. Wait a minimum of 24 hours after final color coat before applying line paint.

3. Apply line primer in accordance with manufacturer's directions and recommended rate of application. Allow a minimum drying time of 1-hour.

4. Line paint shall be textured to match the texture of finish color coat, applied by brush (not sprayed) and shall be free of any fogging or over-spray. Apply 2 coats.

5. All measurements shall be to the outside edge of the lines except the center line and center mark which shall be to the center line of the court.

6. USTA tolerances shall apply.

7. Mask lines before painting. Remove masking tape immediately after lines are dry.

8. Protect lines until thoroughly dry.

3.3 CLEANING

A. Remove remnants of materials, containers, debris, and other construction materials and equipment used in the work.

3.4 PROTECTION

A. Do not allow surrounding sprinkler systems to spray water on the newly applied court surface for a period of one week after completion.

END OF SECTION 32 18 23

SECTION 32 31 13

CHAIN LINK FENCE

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes labor, materials, equipment, and accessories to provide the following:

1. Chain link fencing, including gates, fasteners, fittings, and accessories.

a. Fencing around perimeter of and within the pickleball courts and tennis court.

2. Concrete footings for posts and related excavation.

1.2 SUBMITTALS

A. Provide Shop Drawings illustrating typical fence construction in accordance with Section 01330.

1.3 COORDINATION

A. Coordinate installation of fencing with paving contractor when fencing lies within paved areas.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Posts, Rails, and Braces

1. General Requirements: Posts shall be standard weight (Schedule 40) and hot-dip galvanized pipe meeting the requirements of ASTM A53. Pipe posts shall have tops which exclude moisture.

2. Terminal Posts: Posts shall include end, corner, and pull posts and shall be 3-inch outside diameter Schedule 40 pipe, unless noted otherwise. Posts shall be standard weight 5.79 pounds per foot and of sufficient length to allow for posts to be set into concrete footing as noted on the Drawings.

3. Line Posts: Posts shall be 2 ½-inch outside diameter Schedule 40 pipe, unless noted otherwise. Posts shall be standard weight 3.65 pounds per foot and of sufficient length to allow for posts to be set into concrete footing, or sufficient length to be air driven minimum 72 inches where indicated on the Drawings.

4. Rails: Rails shall be 1 5/8-inch outside diameter Schedule 40, standard weight of 2.27 pounds per foot. Applies to top and bottom rails (and intermediate rails, where applicable).

5. Gate Posts:

a. Gate Leaves Up To and Including 3 Feet Wide: Posts shall be 2 ½ inch outside diameter Schedule 40 pipe.

b. Gate Leaves Over 3 Feet and Up To 6 Feet Wide: Posts shall be 3 inch outside diameter Schedule 40.

c. Gate Leaves Over 6 Feet and Up To 13 Feet Wide: Posts shall be 4 inch outside diameter Schedule 40 pipe.

d. Gate Leaves Over 13 Feet and Up To 18 Feet Wide: Posts shall be 6 5/8 inch outside diameter Schedule 40 pipe.

B. Chain Link Fabric:

1. Fabric shall be woven from 9-gauge steel (coated size) wire in a 1-3/4-inch mesh. Fabric wire shall have a minimum tensile strength of 80,000 pounds per square inch. Fabric shall be 1-piece vertically for fences up to and including 12 feet high.

2. Selvage Edges: Both top and bottom selvage edges shall be knuckled.

C. Fittings:

1. Pressed steel or malleable iron, hot dip galvanized, meeting the requirements of ASTM A153.

D. Gates:

1. Gate Construction:

a. Gate perimeter frame shall be 2-inch outside diameter (1.90-inch) Schedule 40 pipe. Provide additional horizontal and vertical members to ensure proper gate operation and for attachment of fabric, hardware, and accessories. Assemble gate frames by welding fittings and rivets for rigid connections. Use same fabric specified for fence.

b. Install fabric with stretcher bars at vertical edges and tie at top and bottom edges. Attach stretcher bars to gate frame at 15 inches on center maximum. Attach hardware with rivets or by other means which will provide security against removal or breakage.

2. Gate Hardware:

a. Hinges: Pressed steel or malleable iron to suit gate size, non-lift-off type, offset to permit 180 degree swing. Provide 1 pair of hinges for each leaf.

b. Latch: Provide all gates with latching device. Latches shall be as detailed on the Drawings.

c. Keeper: Provide semi-automatic outer catches to secure gates in open position.

d. One-way Bracket: Provide gate stop bracket to allow gate to only open one direction.

E. Finish: Black vinyl pvc coated. All components.

F. Concrete shall be 3,000 psi, air entrained concrete.

PART 3 - EXECUTION

3.1 CONDITION OF SITE

A. Work shall not begin prior to completion of finish grading.

3.2 FENCE INSTALLATION

A. Installation of Chain Link Fence shall comply with ASTM F 567.

B. Installation of Posts - Air-Driven: Line Posts shall be set by air-driving posts to a depth of at least 72 inches into firm, undisturbed, or compacted. Check each post for vertical and top alignment. Core pavement to receive air-driven posts and caulk annular space after setting post.

C. Installation of Posts - Concrete Footings: Holes for corner, end, pull, and gate post footings shall be drilled only in firm, undisturbed or compacted soil. Footing hole depth shall be approximately 6 inches deeper than post bottom. Place concrete around posts in a continuous pour and tamp for consolidation. Check each post for vertical and top alignment.

D. Installation of Post Bracing Assembly: Brace terminal posts with a brace rail and tension wire. Extend brace rail from each terminal post to first adjacent line post. Securely fasten braces to posts with heavy pressed steel connections, then truss from line post back to terminal post with 3/8-inch diameter truss rod complete with tightening unit. Install tension wires before stretching fabric.

E. Installation of Chain Link Fabric: Install fabric on tennis court side of fence and anchor to framework so that fabric remains in tension after pulling force is released. Attachment of fabric to terminal posts shall be made with minimum 1/4-inch by 3/4-inch tension bar and 12 gauge by 1-inch wide clamps using minimum 3/8-inch diameter carriage bolts. Attachment of fabric to line posts shall be made with 6 gauge wire clips spaced 12 inches on center. Attachment of fabric to top and bottom rails shall be made with 9 gauge wires spaced 12 inches on center.

F. Installation of Gates: Gates shall be plumb in the closed position having a bottom clearance of 1 in. grade permitting. Hinge and latch offset opening space shall be no greater than 3 in. in the closed position. Double gate plunger rod receivers shall be set in bituminous pavement. Gate leaf plunger rods shall be installed for all double gates.

3.3 CLEANING AND PROTECTION

A. Site shall be cleared of excess spillage of concrete and cut wires and post hole excavation scattered uniformly away from posts.

B. Tamp pavement surrounding posts to proper grade and level. Refer to Item 3.02.B for caulking of air-driven posts.

END OF SECTION 32 31 13

SECTION 32 31 32

WOOD COMPOSITE FENCES AND GATES

PART 1 – GENERAL

1.1 SECTION INCLUDES

A. Wood composite fences for the trash enclosure indicated on the plans.

B. Excavation for posts for said wood composite fence for the trash enclosure on plans.

1.2 RELATED SECTIONS

A. Section 03 30 00 - Cast-in-Place Concrete.

B. Section 06 73 00 - Composite Decking.

1.3 REFERENCES

A. ASTM C 94 - Standard Specification for Ready-Mixed Concrete.

B. ASTM C 177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.

C. ASTM D 143 - Standard Test Methods for Small Clear Specimens of Timber.

D. ASTM D 198 - Standard Test Methods of Static Tests of Lumber in Structural Sizes.

E. ASTM D 1037 - Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials.

F. ASTM D 1413 - Standard Test Method for Wood Preservatives by Laboratory Soil-Block Cultures.

G. ASTM D 1761 - Standard Test Methods for Mechanical Fasteners in Wood.

H. ASTM D1929 - Standard Test Method for Determining Ignition Temperature of Plastics.

I. ASTM D 2047 - Standard Test Method for Static Coefficient of Friction of Polish-Coated Flooring Surfaces as Measured by the James Machine.

J. ASTM D 2394 - Standard Methods for Simulated Service Testing of Wood and Wood-Base Finish Flooring.

K. ASTM D 2395 - Standard Test Methods for Specific Gravity of Wood and Wood-Based Materials.

L. ASTM D 4761 - Standard Test Methods for Mechanical Properties of Lumber and Wood-Base Structural Material.

M. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

N. ASTM F 1679 - Standard Test Method for Using a Variable Incidence Tribometer (VIT).

O. American Wood Preservers Association (AWPA) E1-06 - Standard Method for Laboratory Evaluation to Determine Resistance to Subterranean Termites.

1.4 DESIGN / PERFORMANCE REQUIREMENTS

A. Design Requirements: Design fence system to withstand Miami/Dade County 110 MPH steady wind and 130 MPH gusting wind tests.

1.5 SUBMITTALS

A. Submit under provisions of Section 01 30 00 - Administrative Requirements.

B. Product Data: Manufacturer's data sheets on each product to be used indicating sizes, profiles, surface finishes, and performance characteristics, and including:

1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods.
4. Instructions on care and cleaning of composite wood products.

C. Verification Samples: For each finish product specified, two samples, minimum size 9 inches (229 mm) square, representing actual product, color, and patterns.

D. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

E. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for cleaning and maintenance.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store and handle products in accordance with the manufacturer's instructions.

B. Store level and flat, off ground or floor, with supports at each end and maximum 24 inches on center.

C. Do not stack wood composite over 8 feet (203 mm) high.

D. Cover wood composite with waterproof covering, vented to prevent moisture buildup.

1.7 WARRANTY

A. Provide manufacturer's 25-year residential warranty / 10-year commercial warranty providing coverage against checking, splitting, splintering, rotting, structural damage from termites, and fungal decay of wood composite.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Trex Fencing, which is located at: 160 Exeter Dr.; Winchester, VA 22603; Distributors and Technical Contacts: www.trexfencing.com.

B. Requests for substitutions shall be submitted to the landscape architect for consideration.

2.2 MATERIALS

A. Wood composite: Reclaimed wood and plastic with integral coloring; free from toxic chemicals and preservatives:

1. Characteristics:

a. Abrasion resistance: 0.01 inch wear per 1000 revolutions, tested to ASTM D 2394.

b. Hardness: 1124 pounds, tested to ASTM D 143.

c. Self ignition temperature: 743 degrees F, tested to ASTM D 1929.

d. Flash ignition temperature: 698 degrees F, tested to ASTM D 1929.

e. Flame spread rating: 80, tested to ASTM E 84.

f. Water absorption, 24 hour immersion, tested to ASTM D 1037:

1) Sanded surface: 4.3 percent.
2) Unsanded surface: 1.7 percent.

g. Thermal expansion coefficient, 36 inch long samples:

1) Width: 35.2 x 10-6 to 42.7 x 10-6.
2) Length: 16.1 x 10-6 to 19.2 x 10-6.

h. Fastener withdrawal, tested to ASTM D 1761:

1) Nail: 163 pounds per inch.
2) Screw: 558 pounds per inch.

i. Static coefficient of friction:

1) Dry: 0.53 to 0.55, tested to ASTM D 2047.
2) Dry: 0.59 to 0.70, tested to ASTM F 1679.
3) Wet: 0.70 to 0.75, tested to ASTM F 1679.

j. Fungus resistance, white and brown rot: No decay, tested to ASTM D 1413.

k. Termite resistance: 9.6 rating, tested to AWPA E-1.

l. Specific gravity: 0.91 to 0.95, tested to ASTM D 2395.

m. Compression:

1) Parallel: 1806 PSI ultimate, 550 PSI design, tested to ASTM D 198.
2) Perpendicular: 1944 PSI ultimate, 625 PSI design, tested to ASTM D 143.

n. Tensile strength: 854 PSI ultimate, 250 PSI design, tested to ASTM D 198.

o. Shear strength: 561 PSI ultimate, 200 PSI design, tested to ASTM D 143.

p. Modulus of rupture: 1423 PSI ultimate, 250 PSI design, tested to ASTM D 4761.

q. Modulus of elasticity: 175,000 PSI ultimate, 100,000 PSI design, tested to ASTM D 4761.

r. Thermal conductivity: 1.57 BTU per inch per hour per square foot at 85 degrees F, tested to ASTM C 177.

2.3 COMPONENTS

A. Fence System: Seclusions Privacy Fence System.

1. Fence height:

a. 8 feet.

2. Components:

a. Fence posts.

b. Post caps:

1) Crown.

c. Top rail

d. Aluminum bottom rail inserts.

e. Bottom rail covers/Pickets, 91 inch.

f. Fence brackets.

3. Surface texture: Smooth.

4. Color: Saddle.

2.4 ACCESSORIES

A. Fasteners: 1-5/8 inch galvanized or corrosion-resistant coated steel. Provide finish nails where applicable.

B. Concrete: Provide as Specified in Section 03 30 00 - Cast-in-Place Concrete; minimum 2500 PSI compressive strength at 28 days, with a 3 to 5 inch slump.

PART 3 – EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Cut and drill wood composite using carbide tipped blades.

C. Space posts maximum 8 feet on center.

D. Drill post holes into undisturbed or compacted soil; excavate deeper in soft or loose soils and for posts with heavy lateral loads.

E. Drill posts to 12-inch diameter. Locate bottom of post 3’-6” below grade.

F. Place top of concrete below pavement slab as indicated on the plans.

G. Screw fence brackets to posts with four 1-5/8 inch long exterior screws.

H. Cut top rails, pickets, bottom rail covers and aluminum bottom rails to lengths required.

I. Slide bottom rail covers over aluminum bottom rail pieces.

J. Position aluminum bottom rail on fence brackets with deeper side of rail channel facing downward.

K. Cut end pickets to height to provide clearance under brackets and screw to posts.

L. Insert pickets into bottom rail, interlocking adjacent pieces.

M. Position top rail and screw attach to top brackets with 1-5/8 inch long exterior screws.

N. Use finish nails to secure pickets to rails if the pickets are not tightly interlocked.

O. Place post caps over post tops and secure with construction adhesive or four finish nails.

3.4 CLEANING

A. Clean wood composite to remove stains:

1. Mold, mildew, and berry and leaf stains: Clean surfaces with conventional deck wash containing detergent or sodium hypochlorite.

2. Rust and ground-in dirt: Clean surfaces with cleaner containing oxalic or phosphoric acid.

3. Oil and grease: Clean surfaces with detergent containing degreasing agent.

3.5 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION 32 31 32

CITY OF WINDSOR HEIGHTS, IA

CONSTRUCTION PLANS FOR

COLBY PARK

2023 PHASE 1 IMPROVEMENTS
MARCH 7, 2023

IOWA ONE CALL
1-800-292-8989 | 811
www.iowaonecall.com
Know what's below. Call before you dig.

NOTE: EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY IOWA ONE CALL 1-800-292-8989 OR 811

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D UNLESS OTHERWISE NOTED. THIS UTILITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

RESOURCE LIST

CITY OF WINDSOR HEIGHTS

City Hall
1145 66th St,
Windsor Heights, IA 50324
279-3662

City Administrator:
Rachelle Swisher

Mayor: Mike Jones

City Council Members:
Lauren Campbell
Threase Harms
Joseph Jones
Michael Libbie
Susan Skeries

City Engineer:
Justin Ernst

UTILITIES

TELEPHONE
LUMEN
Ashlie Clements
(906) 284-2821

CABLE / INTERNET
MEDIACOM
(877) 561-6847

WATER & TRASH/RECYCLING
DES MOINES WATER WORKS
(515) 283-8700

ELECTRIC
MIDAMERICAN ENERGY
(888) 427-5632

MAP OF PORTIONS OF THE
CITY OF WINDSOR HEIGHTS
POLK COUNTY, IA

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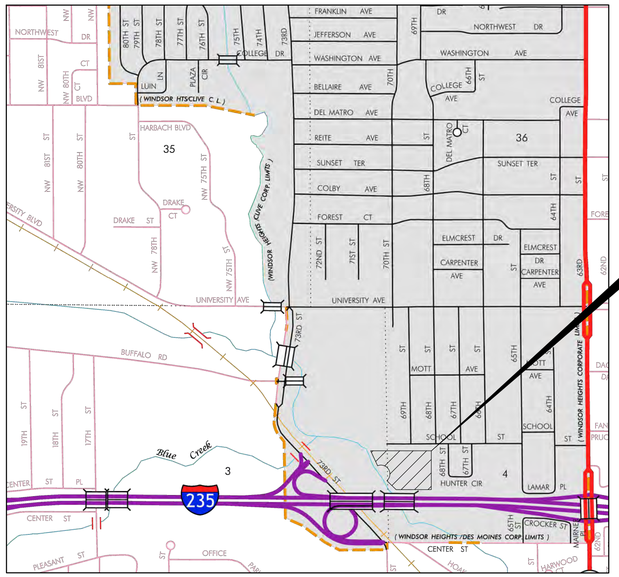
SCALE FEET



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CONTEXT MAP
(6900 SCHOOL ST, WINDSOR HEIGHTS, IA 50324)

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NUMBER	DESCRIPTION	REVISION	DATE REVISED
A.01	TITLE SHEET	0	3/7/2023
A.02	LEGEND	0	3/7/2023
B.01	TYPICAL SECTIONS	0	3/7/2023
B.02	TYPICAL SECTIONS	0	3/7/2023
B.03	TYPICAL SECTIONS	0	3/7/2023
B.04	TYPICAL SECTIONS	0	3/7/2023
B.05	TYPICAL DETAILS	0	3/7/2023
B.06	BASKETBALL COURT DETAILS	0	3/7/2023
B.07	POST-TENSIONED SLAB NOTES	0	3/7/2023
B.08	POST-TENSIONED SLAB PLANS	0	3/7/2023
B.09	POST-TENSIONED SLAB DETAILS	0	3/7/2023
C.01	QUANTITIES AND ESTIMATE REFERENCE NOTES	0	3/7/2023
C.02	ESTIMATE REFERENCE NOTES	0	3/7/2023
D.00	OVERALL SITE MAP	0	3/7/2023
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D.02	SITE PLAN PHASE 1	0	3/7/2023
D.03	SITE PLAN PHASE 1	0	3/7/2023
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G.01	REFERENCES & BENCHMARKS	0	3/7/2023
J.01	STAGING AND TRAFFIC CONTROL	0	3/7/2023

SHEET INDEX			
NUMBER	DESCRIPTION	REVISION	DATE REVISED
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L.03	SPORTS COURT ENLARGEMENT	0	3/7/2023
L.04	SPORTS COURT FENCING PLAN	0	3/7/2023
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R.01	EROSION CONTROL	0	3/7/2023
R.02	EROSION CONTROL	0	3/7/2023
R.03	EROSION CONTROL	0	3/7/2023
S.01	ADA RAMPS	0	3/7/2023
E0.1	ELECTRICAL PLAN PHASE 1	0	3/7/2023
E.10	ELECTRICAL PLAN PHASE 1	0	3/7/2023
E.11	ELECTRICAL PLAN PHASE 1	0	3/7/2023
E.50	ELECTRICAL PLAN PHASE 1	0	3/7/2023

GOVERNING SPECIFICATIONS

THE 2023 EDITION OF THE "IOWA STATEWIDE URBAN SPECIFICATIONS FOR PUBLIC IMPROVEMENTS" AND CITY OF WINDSOR HEIGHTS SPECIFICATIONS.

MUTCD 2009 AS ADOPTED BY IOWA DEPARTMENT OF TRANSPORTATION.

ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND ORDINANCES WILL BE COMPLIED WITHIN THE CONSTRUCTION OF THIS PROJECT.

LICENSED PROFESSIONAL ENGINEER
RICHARD K. LARSON
16014
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.

Signature Date

Richard K. Larson
License number 16014

My license renewal date is: December 31, 2023
Pages or sheets covered by this seal:
E0.1-E.50

PROFESSIONAL LANDSCAPE ARCHITECT
CASEY BYERS 00637
IOWA

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

CASEY BYERS, L.A.

LIC. NO. 00637 DATE: 02/20/2023

MY LICENSE RENEWAL DATE IS JUNE 30, 2023

PAGES OR SHEETS COVERED BY THIS SEAL:
L SHEETS, B.01-B.06 SHEETS

LICENSED PROFESSIONAL ENGINEER
DAVID STARK P26523
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.

DAVID STARK, P.E.

LIC. NO. P26523 DATE: 02/20/2023

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2024

PAGES OR SHEETS COVERED BY THIS SEAL:
STRUCTURAL SHEETS B.07-B.09

LICENSED PROFESSIONAL ENGINEER
JUSTIN ERNST 23753
IOWA

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JUSTIN ERNST, P.E.

LIC. NO. 23753 DATE: 2/20/2023

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2023

PAGES OR SHEETS COVERED BY THIS SEAL:
A, C, D, G, J, M, & R SHEETS, SHEET S.01

NOTE:
THIS SET IS INTENDED TO BE PRINTED IN COLOR. IF PRINTING IN BLACK AND WHITE, SOME LEGIBILITY MAY BE REDUCED.

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WINDSOR HEIGHTS the heart of it all

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CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
TITLE SHEET

SHEET A.01

EXISTING TOPOGRAPHIC SYMBOLS

- ACCESS GRATE
- AIR CONDITION UNIT
- ANTENNA
- AUTO SPRINKLER CONNECTION
- BARRICADE PERMANENT
- BASKETBALL POST
- BENCH
- BIRD FEEDER
- BOLLARD
- BUSH
- CATCH BASIN RECTANGULAR CASTING
- CATCH BASIN CIRCULAR CASTING
- CURB STOP
- CLEAN OUT
- CULVERT END
- DRINKING FOUNTAIN
- DOWN SPOUT
- FILL PIPE
- FIRE HYDRANT
- FLAG POLE
- FLARED END / APRON
- FUEL PUMP
- GRILL
- GUY WIRE ANCHOR
- HANDHOLE
- HANDICAP SPACE
- IRRIGATION SPRINKLER HEAD
- IRRIGATION VALVE BOX
- LIFT STATION CONTROL PANEL
- LIFT STATION
- LIGHT POLE
- MAILBOX
- MANHOLE-COMMUNICATION
- MANHOLE-ELECTRIC
- MANHOLE-GAS
- MANHOLE-HEAT
- MANHOLE-SANITARY SEWER
- MANHOLE-STORM SEWER
- MANHOLE-UTILITY
- MANHOLE-WATER
- METER
- ORDER MICROPHONE
- PARKING METER
- PAVEMENT MARKING
- PEDESTAL-COMMUNICATION
- PEDESTAL-ELECTRIC
- PEDESTRIAN PUSH BUTTON
- PICNIC TABLE
- POLE-UTILITY
- POST
- RAILROAD SIGNAL POLE
- REGULATION STATION GAS
- SATELLITE DISH
- SIGN TRAFFIC
- SIGNAL CONTROL CABINET
- SOIL BORING
- SIREN
- TELEPHONE BOOTH
- TILE INLET
- TILE OUTLET
- TILE RISER
- TRANSFORMER-ELECTRIC
- TREE-CONIFEROUS
- TREE-DEAD
- TREE-DECIDUOUS
- TREE STUMP
- TRAFFIC ARM BARRIER
- TRAFFIC SIGNAL
- TRASH CAN
- UTILITY MARKER
- VALVE
- VALVE POST INDICATOR
- VALVE VAULT
- VENT PIPE
- WATER SPIGOT
- WELL
- WETLAND DELINEATED MARKER
- WETLAND
- WET WELL
- YARD HYDRANT

PROPOSED TOPOGRAPHIC SYMBOLS

- CLEANOUT
- MANHOLE
- LIFT STATION
- STORM SEWER CIRCULAR CASTING
- STORM SEWER RECTANGULAR CASTING
- STORM SEWER FLARED END / APRON
- STORM SEWER OUTLET STRUCTURE
- STORM SEWER OVERFLOW STRUCTURE
- CURB BOX
- FIRE HYDRANT
- WATER VALVE
- WATER REDUCER
- WATER BEND
- WATER TEE
- WATER CROSS
- WATER SLEEVE
- WATER CAP / PLUG
- RIP RAP
- DRAINAGE FLOW
- TRAFFIC SIGNS
- LIGHT POLE

SURVEY SYMBOLS

- BENCH MARK LOCATION
- CONTROL POINT
- MONUMENT IRON FOUND
- CAST IRON MONUMENT

EXISTING TOPOGRAPHIC LINES

- RETAINING WALL
- FENCE
- FENCE-DECORATIVE
- GUARD RAIL
- TREE LINE
- BUSH LINE

SURVEY LINES

- CONTROLLED ACCESS
- BOUNDARY
- CENTERLINE
- EXISTING EASEMENT LINE
- PROPOSED EASEMENT LINE
- EXISTING LOT LINE
- PROPOSED LOT LINE
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY
- SETBACK LINE
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- TEMPORARY EASEMENT

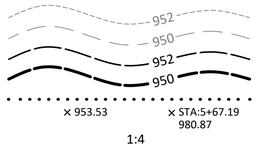
EXISTING UTILITY LINES

- FORCEMAIN
- SANITARY SEWER
- SANITARY SERVICE
- STORM SEWER
- STORM SEWER DRAIN TILE
- WATERMAIN
- WATER SERVICE

PROPOSED UTILITY LINES

- FORCEMAIN
- SANITARY SEWER
- SANITARY SERVICE
- STORM SEWER
- STORM SEWER DRAIN TILE
- WATERMAIN
- WATER SERVICE
- PIPE CASING

GRADING INFORMATION



- EXISTING CONTOUR MINOR
- EXISTING CONTOUR MAJOR
- PROPOSED CONTOUR MINOR
- PROPOSED CONTOUR MAJOR
- PROPOSED GRADING LIMITS / SLOPE LIMITS
- PROPOSED SPOT ELEVATION
- RISE:RUN (SLOPE)

EXISTING PRIVATE UTILITY LINES

NOTE:
EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY IOWA ONE CALL - 1-800-292-8989

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D UNLESS OTHERWISE NOTED. THIS UTILITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA"

- UNDERGROUND FIBER OPTIC
- UNDERGROUND ELECTRIC
- UNDERGROUND GAS
- UNDERGROUND COMMUNICATION
- OVERHEAD ELECTRIC
- OVERHEAD COMMUNICATION
- OVERHEAD UTILITY

ABBREVIATIONS

A	ALGEBRAIC DIFFERENCE	GV	GATE VALVE	RT	RIGHT
ADJ	ADJUST	HDPE	HIGH DENSITY POLYETHYLENE	SAN	SANITARY SEWER
ALT	ALTERNATE	HH	HANDHOLE	SCH	SCHEDULE
B-B	BACK TO BACK	HMA	HOT MIX ASPHALT	SERV	SERVICE
BLDG	BUILDING	HP	HIGH POINT	SHLD	SHOULDER
BMP	BEST MANAGEMENT PRACTICE	HWL	HIGH WATER LEVEL	STA	STATION
BR	BEGIN RADIUS	HYD	HYDRANT	STD	STANDARD
BV	BUTTERFLY VALVE	I	INVERT	STM	STORM SEWER
CB	CATCH BASIN	K	CURVE COEFFICIENT	TC	TOP OF CURB
C&G	CURB AND GUTTER	L	LENGTH	TE	TEMPORARY EASEMENT
CIP	CAST IRON PIPE	LO	LOWEST OPENING	TEMP	TEMPORARY
CIPP	CURED-IN-PLACE PIPE	LP	LOW POINT	TNH	TOP NUT HYDRANT
CL	CENTER LINE	LT	LEFT	TP	TOP OF PIPE
CL.	CLASS	MH	MANHOLE	TYP	TYPICAL
CMP	CORRUGATED METAL PIPE	MIN	MINIMUM	VCP	VITRIFIED CLAY PIPE
C.O.	CHANGE ORDER	MPW	MUSCATINE POWER & WATER	VERT	VERTICAL
COMM	COMMUNICATION	MR	MID RADIUS	VPC	VERTICAL POINT OF CURVE
CSP	CORRUGATED STEEL PIPE	NIC	NOT IN CONTRACT	VPI	VERTICAL POINT OF INTERSECTION
CLVT	CULVERT	NMC	NON-METALLIC CONDUIT	VPT	VERTICAL POINT OF TANGENT
DIA	DIAMETER	NTS	NOT TO SCALE	WM	WATERMAIN
DIP	DUCTILE IRON PIPE	NWL	NORMAL WATER LEVEL	WS	WATER SERVICE
DWY	DRIVEWAY	OHW	ORDINARY HIGH WATER LEVEL		
E	EXTERNAL CURVE DISTANCE	PC	POINT OF CURVE		
ESMT	EASEMENT	PCC	PORTLAND CEMENT CONCRETE	AC	ACRES
ELEC	ELECTRIC	PE	PERMANENT EASEMENT	CF	CUBIC FEET
ELEV/EL	ELEVATION	PED	PEDESTRIAN, PEDESTAL	CV	COMPACTED VOLUME
EOF	EMERGENCY OVERFLOW	PERF	PERFORATED PIPE	CY	CUBIC YARD
ER	END RADIUS	PERM	PERMANENT	EA	EACH
EX	EXISTING	PI	POINT OF INTERSECTION	EV	EXCAVATED VOLUME
FES	FLARED END SECTION	PL	PROPERTY LINE	LB	POUND
F-F	FACE TO FACE	PRC	POINT OF REVERSE CURVE	LF	LINEAR FEET
FF	FINISHED FLOOR	PT	POINT OF TANGENT	LS	LUMP SUM
F&I	FURNISH AND INSTALL	PVC	POLYVINYL CHLORIDE PIPE	LV	LOOSE VOLUME
FM	FORCEMAIN	PVMT	PAVEMENT	SF	SQUARE FEET
FO	FIBER OPTIC	R	RADIUS	SV	STOCKPILE VOLUME
F.O.	FIELD ORDER	RCP	REINFORCED CONCRETE PIPE	SY	SQUARE YARD
GRAN	GRANULAR	RET	RETAINING		
GRAV	GRAVEL	R/W	RIGHT-OF-WAY		
GU	GUTTER	RSC	RIGID STEEL CONDUIT		

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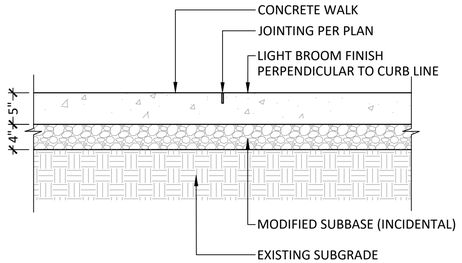
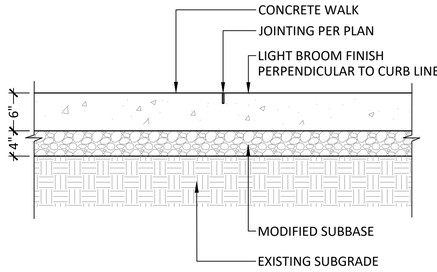
CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
LEGEND

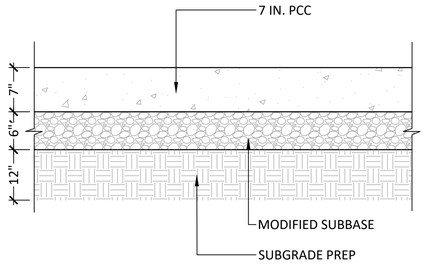
SHEET A.02



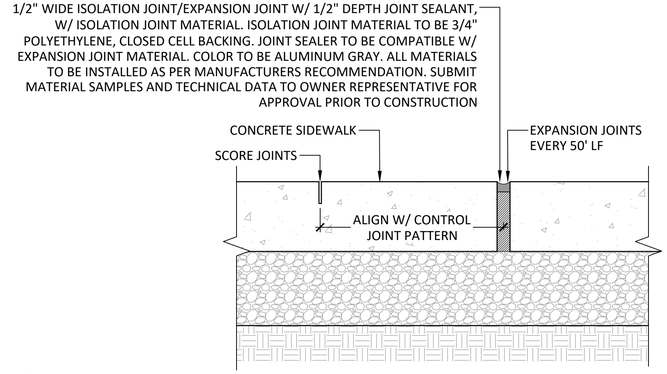
1 SIDEWALK, PCC, 5 IN.
SCALE: N.T.S.



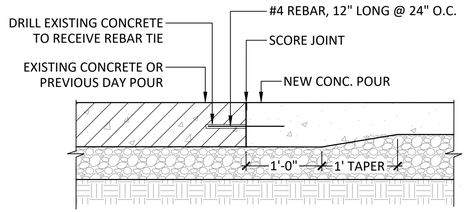
2 SIDEWALK, PCC, 6 IN.
SCALE: N.T.S.



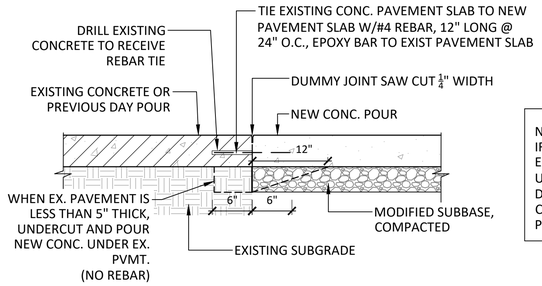
3 PAVEMENT, PCC, 7 IN.
SCALE: N.T.S.



4 CONCRETE SIDEWALK JOINTS
SCALE: N.T.S.

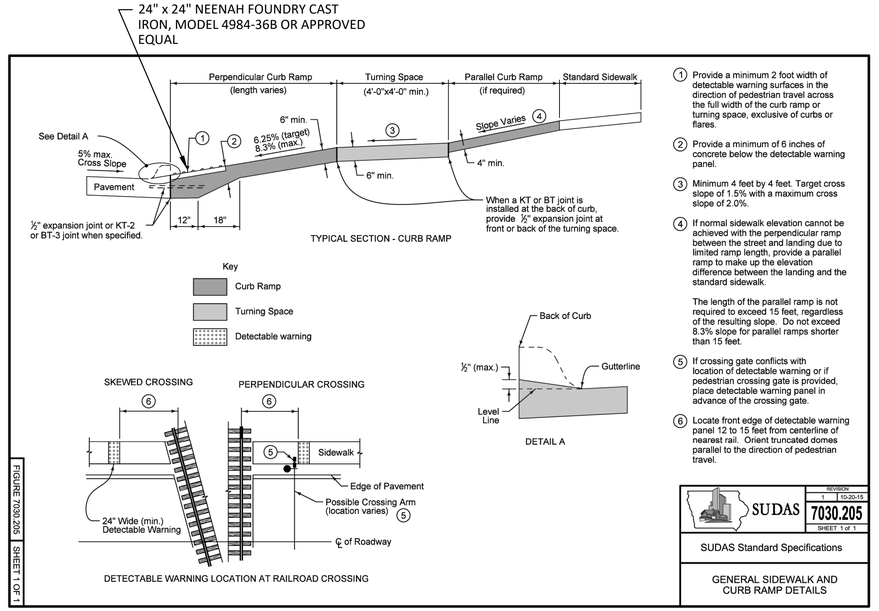


5 SIDEWALK REINFORCED CONSTRUCTION JOINT
SCALE: N.T.S.

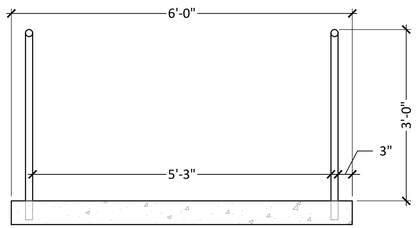


NOTE:
IF CONCRETE POUR IS NEXT TO EXISTING BITUMINOUS, POUR RIGHT UP TO EDGE OF BITUMINOUS(NO DRILLING OR REBAR TIE). ENSURE CLEAN CUT AT EXISTING BITUMINOUS PRIOR TO POURING CONCRETE.

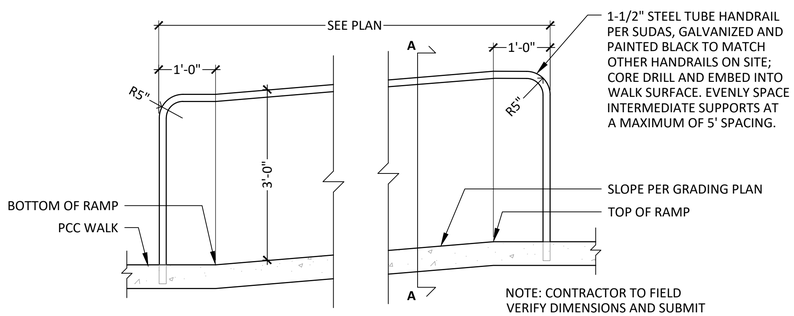
6 PAVEMENT JOINT AT EXISTING CONCRETE PAVEMENT
SCALE: N.T.S.



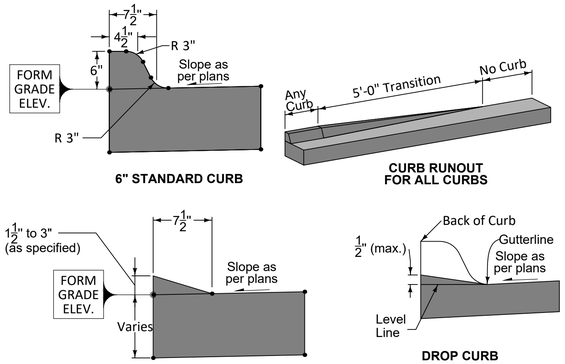
9 PEDESTRIAN CURB RAMP/DETECTABLE WARNING
SCALE: N.T.S.



SECTION A-A



7 SECTION: RAMP WITH HANDRAIL
SCALE: N.T.S.



8 CURB DETAILS
SCALE: N.T.S.

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the heart of it all

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SEALED	CB
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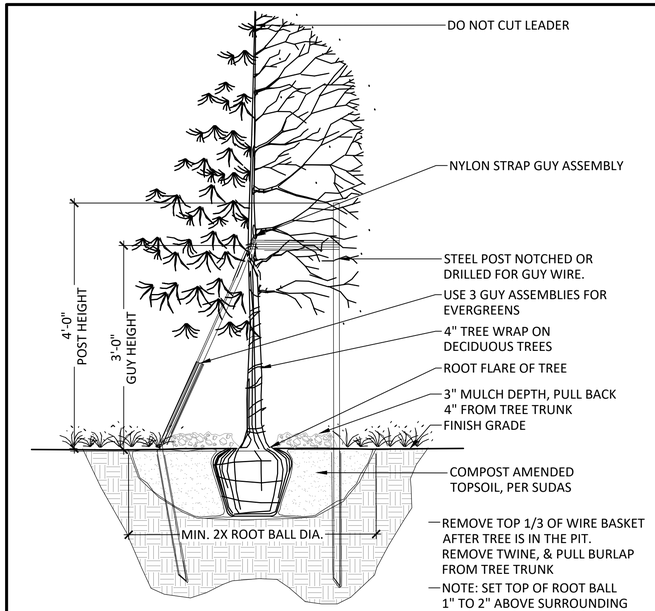
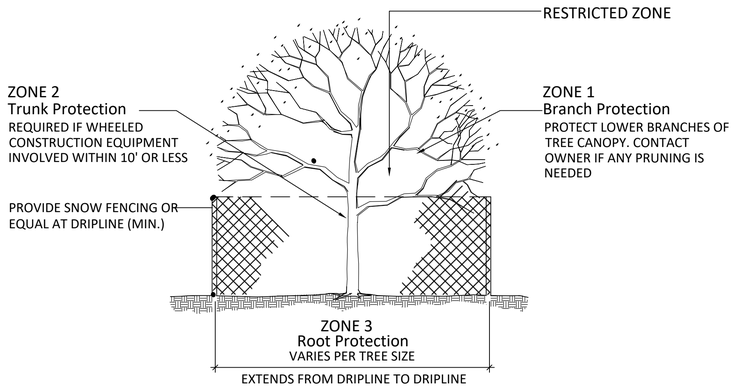
CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
TYPICAL SECTIONS

SHEET B.01



1 TREE PLANTING
SCALE: N.T.S.



2 EXISTING TREE PROTECTION
N.T.S.

TREE PROTECTION NOTES

1. ALL TREES TO BE PROTECTED AND PRESERVED SHALL BE PER DETAIL. GROUPING OF MORE THAN ONE TREE MAY OCCUR.
2. TREES TO BE PROTECTED AND PRESERVED SHALL BE IDENTIFIED ON THE TRUNK WITH WHITE SURVEY TAPE.
3. TO PREVENT TREE ROOT SMOTHERING, SOIL STOCKPILES, SUPPLIES, EQUIPMENT OR ANY OTHER MATERIAL SHALL NOT BE PLACED OR STORED WITHIN A TREE DRIP LINE OR WITHIN 15 FEET OF A TREE TRUNK, WHICHEVER IS GREATER.
4. TREE ROOTS SHALL NOT BE CUT UNLESS CUTTING IS UNAVOIDABLE.
5. TRENCHES SHALL BE HAND DUG WITHIN THE DRIP LINE IN AREAS WHERE ROOTS TWO INCHES IN DIAMETER AND GREATER ARE PRESENT, OR WHEN IN CLOSE PROXIMITY TO LOW BRANCHING TREES. WHENEVER POSSIBLE, ROOTS TWO INCHES OR GREATER IN DIAMETER SHALL BE TUNNELED OR BORED UNDER AND SHALL BE COVERED TO PREVENT DEHYDRATION.
6. WHEN ROOT CUTTING IS UNAVOIDABLE, A CLEAN SHARP CUT SHALL BE MADE TO AVOID SHREDDING OR SMASHING. ROOT CUTS SHOULD BE MADE BACK TO A LATERAL ROOT. WHENEVER POSSIBLE, TREE ROOTS SHOULD BE CUT BETWEEN LATE FALL AND BUD OPENING, WHEN ROOT ENERGY SUPPLIES ARE HIGH AND CONDITIONS ARE LEAST FAVORABLE FOR DISEASE CAUSING AGENTS. EXPOSED ROOTS SHALL BE COVERED IMMEDIATELY TO PREVENT DEHYDRATION. ROOTS SHALL BE COVERED WITH SOIL OR BURLAP AND KEPT MOIST.
7. WATERING OF PROTECTED TREES IN WHICH ROOTS WERE CUT SHALL BE PROVIDED BY THE CONTRACTOR.
8. AUGER TUNNELING RATHER THAN TRENCHING SHOULD BE USED FOR UTILITY PLACEMENT WITHIN DRIP LINE OF TREE.
9. FENCING MATERIAL SHALL ENCIRCLE ANY TREE WHOSE OUTER DRIP LINE EDGE IS WITHIN 20 FEET OF ANY CONSTRUCTION ACTIVITIES.
10. FENCING MATERIAL SHALL BE BRIGHT, CONTRASTING COLOR, DURABLE, AND A MINIMUM OF FOUR FEET IN HEIGHT.
11. FENCING MATERIAL SHALL BE SET AT THE DRIP LINE OR 15 FEET FROM TREE TRUNK, WHICHEVER IS GREATER, AND MAINTAINED IN AN UPRIGHT POSITION THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES.
12. ANY GRADE CHANGES (SUCH AS THE REMOVAL OF TOPSOIL OR ADDITION OF FILL MATERIAL) WITHIN THE DRIP LINE SHOULD BE AVOIDED FOR EXISTING TREES TO REMAIN. RETAINING WALLS AND TREE WELLS ARE ACCEPTABLE ONLY WHEN CONSTRUCTED PRIOR TO GRADE CHANGE.

PLANT SCHEDULE

CANOPY TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPREAD	HEIGHT		REMARKS
LE	4	LIRIODENDRON TULIPIFERA 'JFS-OZ'	EMERALD CITY® TULIP POPLAR	2" CAL.	-	20`-30`	40`-60`		
STREET TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPREAD	HEIGHT		REMARKS
GP	4	GINKGO BILOBA 'PRINCETON SENTRY'	PRINCETON SENTRY MAIDENHAIR TREE	2" CAL.	B&B	20`-30`	30`-50`		
UP	4	ULMUS AMERICANA 'PRINCETON'	PRINCETON AMERICAN ELM	2" CAL.	B&B	30`-50`	50`-70`		

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CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
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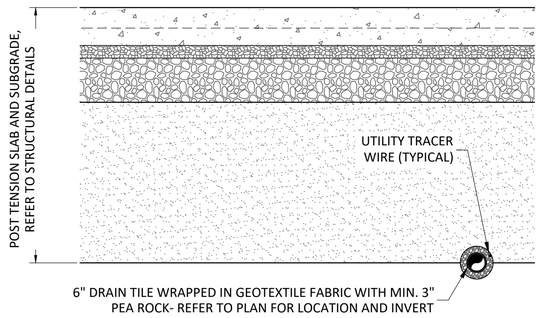
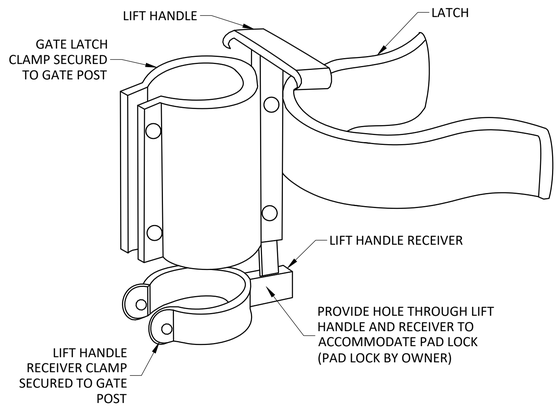
SHEET B.02



1 COURT SURFACING

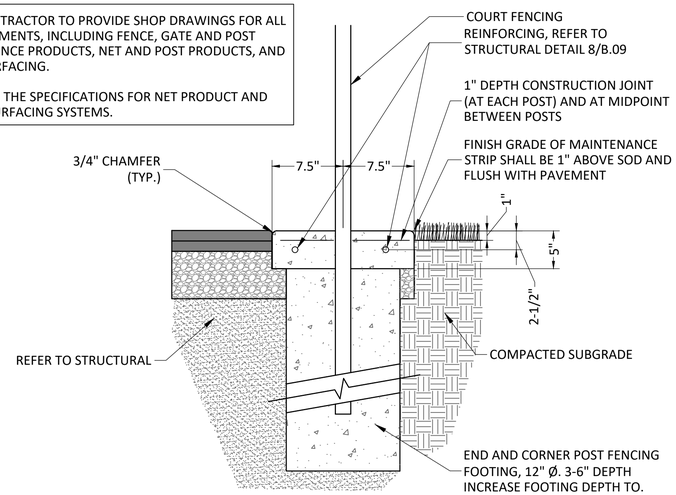
NOTE: PROVIDE ADEQUATE SPACE BETWEEN GATE POST AND GATE SUCH THAT GATE IS IN LINE WITH FENCING WHEN FULLY CLOSED AND LATCHED.



2 GATE LATCH

NOTE: CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR ALL COURT ELEMENTS, INCLUDING FENCE, GATE AND POST LAYOUT, FENCE PRODUCTS, NET AND POST PRODUCTS, AND COURT SURFACING.

REFERENCE THE SPECIFICATIONS FOR NET PRODUCT AND ACRYLIC SURFACING SYSTEMS.



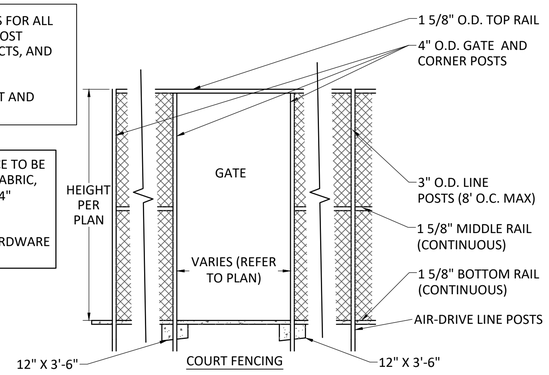
3 MAINTENANCE STRIP @ FENCE CONCRETE PIER

NOTE: CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR ALL COURT ELEMENTS, INCLUDING FENCE, GATE AND POST LAYOUT, FENCE PRODUCTS, NET AND POST PRODUCTS, AND COURT SURFACING.

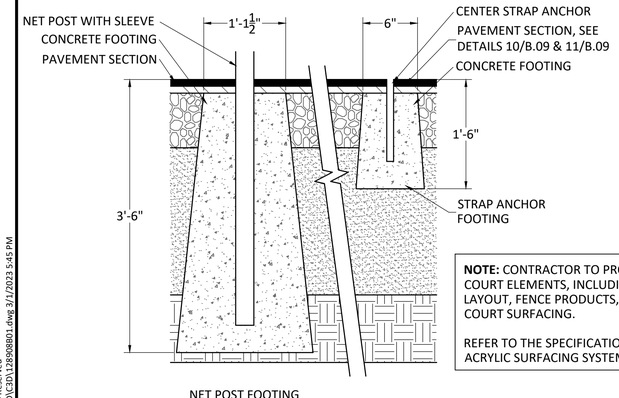
REFERENCE THE SPECIFICATIONS FOR NET PRODUCT AND ACRYLIC SURFACING SYSTEMS.

NOTE: COURT FENCE TO BE 9 GA. CHAIN LINK FABRIC, BLACK COLOR, 1-3/4" DIAMOND WEAVE

ALL POSTS AND HARDWARE TO BE BLACK



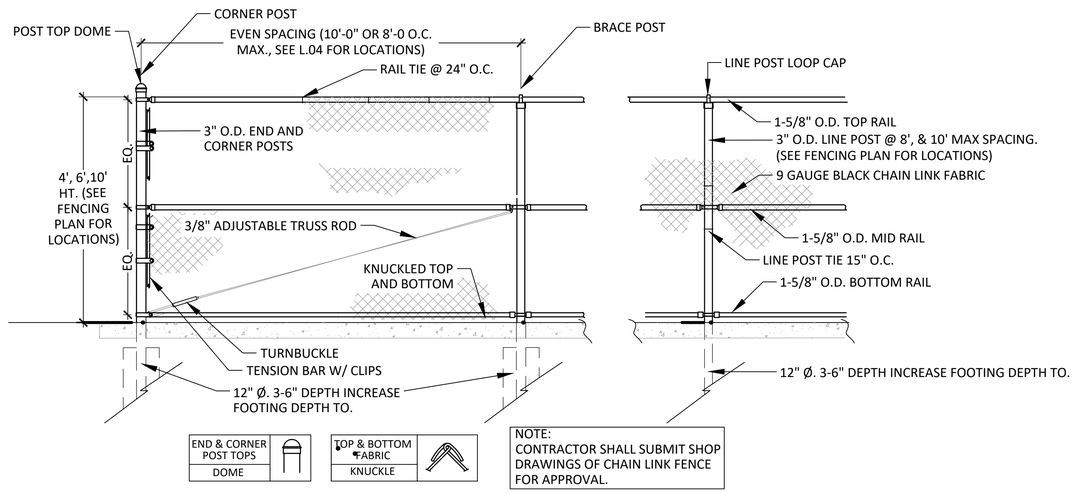
4 COURT FENCE, TYP. (ELEVATION)



NOTE: CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR ALL COURT ELEMENTS, INCLUDING FENCE, GATE AND POST LAYOUT, FENCE PRODUCTS, NET AND POST PRODUCTS, AND COURT SURFACING.

REFER TO THE SPECIFICATIONS FOR NET PRODUCT AND ACRYLIC SURFACING SYSTEMS.

5 NET POST AND STRAP CONCRETE PIERS



NOTE:
CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF CHAIN LINK FENCE FOR APPROVAL.

6 COURT FENCE
SCALE: N.T.S.

REV	ISSUED FOR	DATE
0	CONSTRUCTION SET	03-07-2023

BOLTON & MENK
430 E GRAND AVE, SUITE 101
DES MOINES, IOWA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

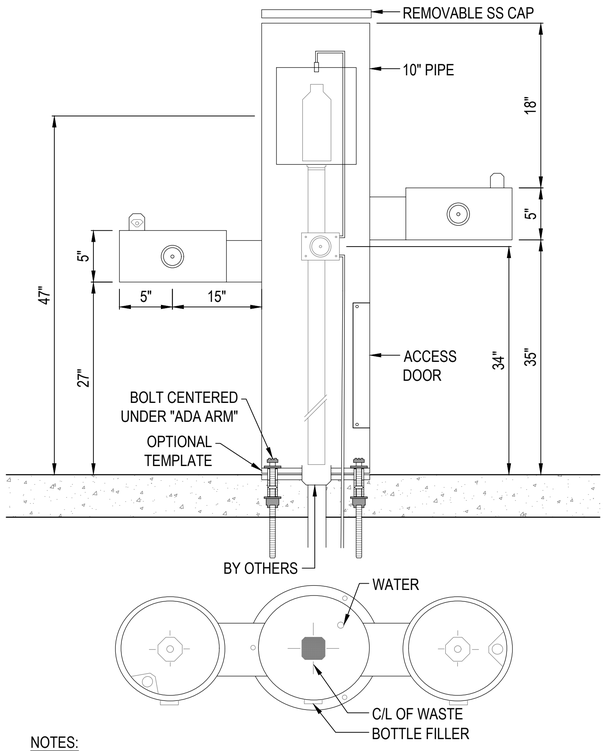
WINDSOR HEIGHTS the heart of it all

DESIGNED	NW/NRJ/TJN
SCALED	CB
CHECKED	CB
CLIENT PROJ. NO.	OT6.128908

CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
TYPICAL SECTIONS

SHEET B.03

MOST DEPENDABLE FOUNTAINS, INC.
5705 COMMANDER DR. P.O. BOX 587
ARLINGTON, TN 38002-0587
PHONE: (901) 867-0039
www.mostdependable.com



NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. DO NOT SCALE DRAWING.
3. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
4. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info AND ENTER REFERENCE NUMBER 3354-17.45.

MODEL 10145SMFA

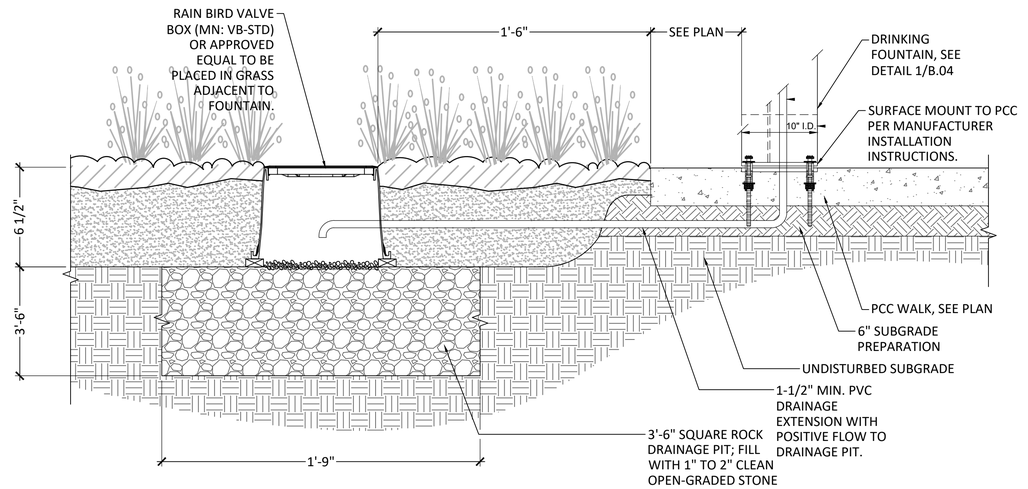
10145SM SHOWN WITH OPTIONAL 10" SS SURFACE CARRIER

NOTE:
COLOR:
TEXTURED BLACK

ADDITIONAL OPTIONS TO BE ADDED:
RECESSED HOSE BIBB AND LOCK DOOR, CUT OFF VALVE AND LOW POINT DRAIN, NO FILTER

PROVIDE SHOP DRAWINGS FOR APPROVAL

1 DRINKING FOUNTAIN (MDF MODEL 10145SMFA)



2 DRINKING FOUNTAIN DRAINAGE PIT

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WINDSOR HEIGHTS
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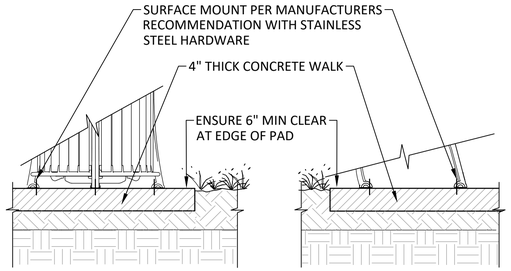
CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
TYPICAL SECTIONS

SHEET
B.04



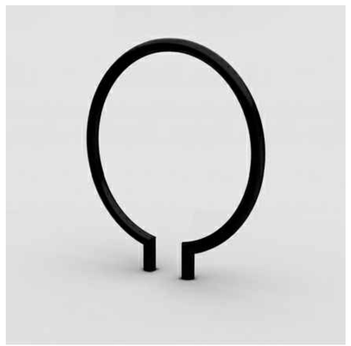
LITTER RECEPTACLE ON CONCRETE

BENCH ON CONCRETE

NOTES:
1. REFER TO SPECS FOR MODEL AND MANUFACTURERS
2. FIELD VERIFY LOCATION BY LANDSCAPE ARCHITECT
3. SHIM TO LEVEL SITE FURNISHINGS

1 SURFACE MOUNT FURNISHINGS

SCALE: N.T.S.



BIKE RACK:
1. MANUFACTURER: LANDSCAPE FORMS
2. MODEL: RING
3. COLOR: BLACK
4. FINISH: POWDERCOAT, BLACK
5. MOUNTING: EMBEDDED PER MANUFACTURER

OR APPROVED EQUAL

CONTACT: STACY ERNST
Site Source, llc.
816-444-4376
stacye@landscapeforms.com

BENCH TYPE 1:
1. MANUFACTURER: DUMOR
2. MODEL: 106-60, 6' BACKLESS BENCH
3. COLOR: TEXTURED BLACK
4. FINISH: POWDERCOAT
5. MOUNTING: SURFACE MOUNT

OR APPROVED EQUAL

CONTACT: DIANE WITT
402-289-0400
diane@oudoorrec.net
outdoorrecreationproducts.com

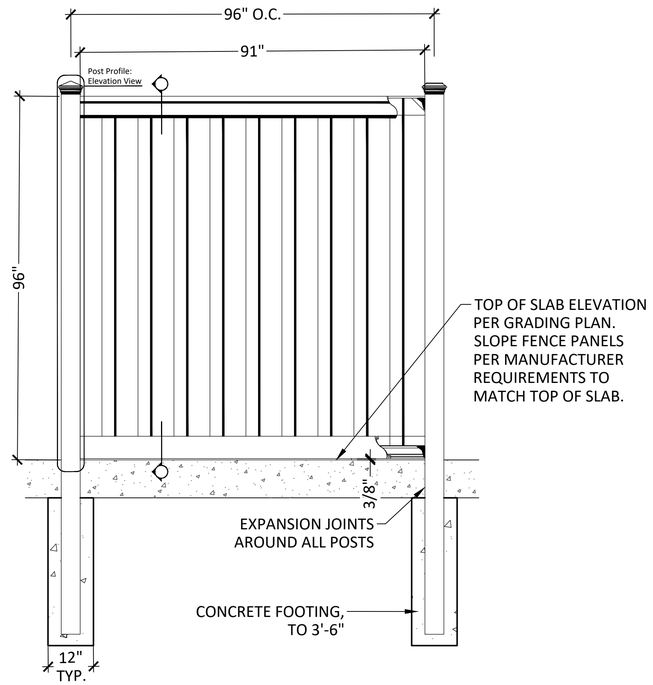
TRASH RECEPTACLE:
1. MANUFACTURER: DUMOR
2. MODEL: 158-40-FTO
3. STANDARD LINER
4. COLOR: TEXTURED BLACK
5. MOUNTING: SURFACE MOUNT

OR APPROVED EQUAL

RECYCLING CONTAINER:
1. MANUFACTURER: DUMOR
2. MODEL: 158-40-RC
3. STANDARD LINER
4. COLOR: MATCH EXISTING RECYCLING CONTAINERS
5. MOUNTING: SURFACE MOUNT

OR APPROVED EQUAL

2 SITE FURNISHINGS



NOTES:

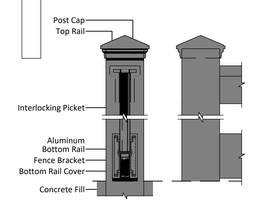
1. INSTALLATION TO BE COMPLETED PER MANUFACTURER'S SPECIFICATION.
2. THIS DRAWING IS PROVIDED FOR PLANNING PURPOSES. REFER TO MANUFACTURER'S INSTALLATIONS FOR CONSTRUCTION DETAILS.
3. REFER TO MANUFACTURER'S WEBSITE FOR PRODUCT INFORMATION.
4. DRAWING NOT TO SCALE.

Publication date Jan 30, 2019

ARCHITECTURAL DRAWING:
TREX SECLUSIONS FENCING
8' TALL x 8' WIDE

COMPONENTS	QUANTITY	LENGTH
Post Cap: Crown		
5" x 5" Post		144" *
4" x 4.9" Top Rail		91" *
1"x5.75" Interlocking Picket		91" *
1" x 5.75" Bottom Rail Cover		91" *
Aluminum Bottom Rail		90 1/2"
Fence Bracket		
1 5/8" (Typ) Exterior Wood Screws		

* Length may vary



Post Profile: Cut View / Elevation View

160 EXETER DR., WINCHESTER VA, 22603
WWW.TREXFENCING.COM

3 TREX ENCLOSURE

SCALE: N.T.S.

REV	ISSUED FOR	DATE
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WINDSOR HEIGHTS the heart of it all

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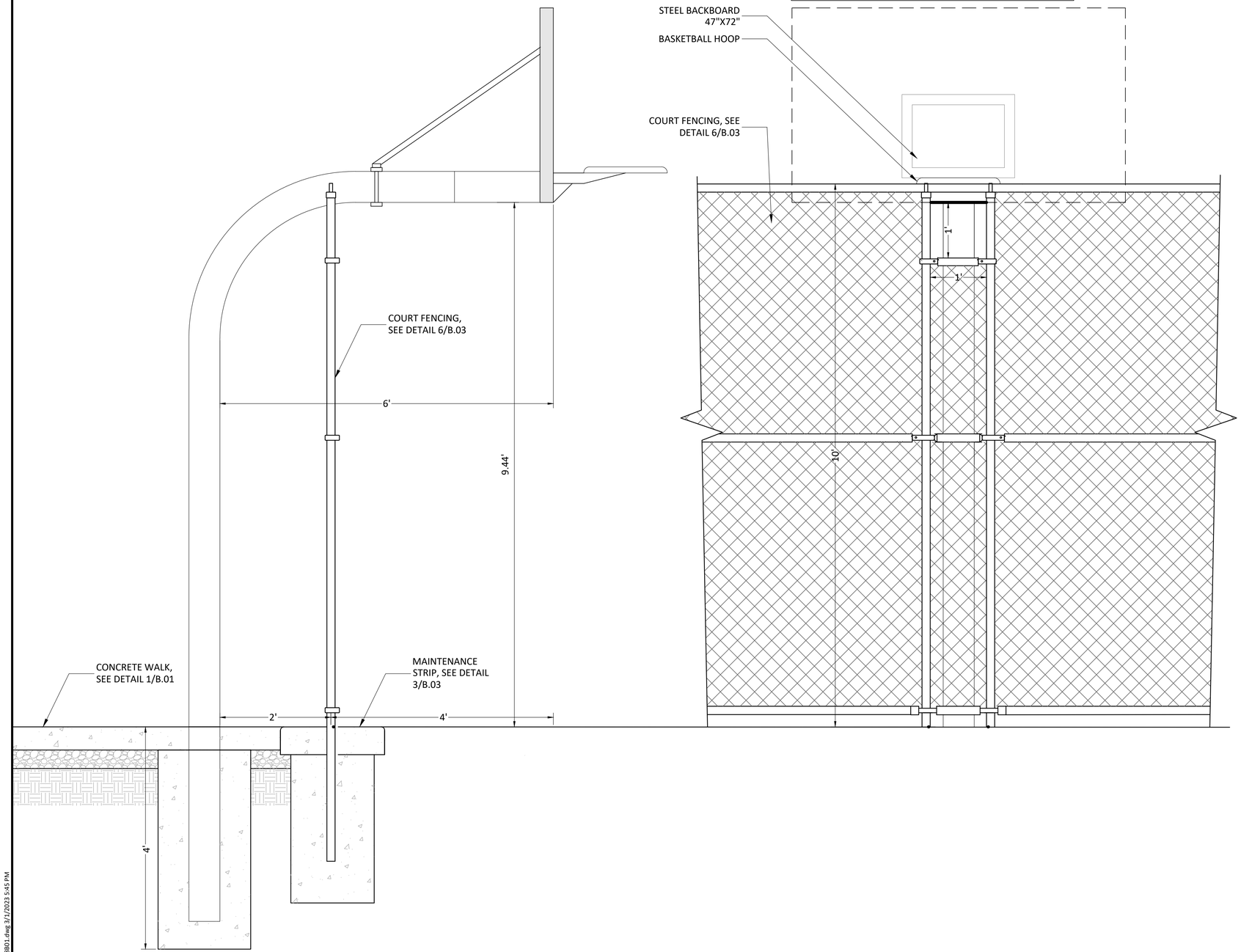
CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
TYPICAL SECTIONS

SHEET B.05

NOTE: CONTRACTOR TO FIELD VERIFY THE DIMENSIONS OF THE HOOP CLEARANCE PRIOR TO PLACEMENT OF THE FENCE.



1 BASKETBALL HOOP LAYOUT

BASKETBALL HOOP:

1. MANUFACTURER: AMERICAN SUPER SPORTS
2. MODEL: TYRANTSUPREME
3. COLOR: BLACK
4. SIZE: 47"X72" STEEL BACKBOARD
5. FIXED GOAL
6. www.firstteaminc.com

OR APPROVED EQUAL

2 BASKETBALL HOOP

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0	CONSTRUCTION SET	03-07-2023

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CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
TYPICAL SECTIONS

SHEET B.06

GENERAL NOTES

1. TYPICAL STRUCTURAL DETAILS AND NOTES SHALL APPLY UNLESS NOTED OTHERWISE ON THE DRAWINGS.
2. EXAMINE SITE AND DRAWINGS TO DETERMINE LOCATIONS AND DIMENSIONS OF UTILITIES, AND SITE IMPROVEMENTS.
3. BEFORE CONSTRUCTION FABRICATION AND ERECTION OF ANY MATERIALS, CONTRACTOR SHALL FIELD VERIFY ALL EXISTING ELEVATIONS, DIMENSIONS AND CONDITIONS AS SHOWN ON THE DRAWINGS AND REPORT DISCREPANCIES TO THE ENGINEER AT ONCE FOR RESOLUTION.
4. ALL DIMENSIONS, LOCATIONS, ELEVATIONS AND CONDITIONS OF EXISTING STRUCTURES SHOWN ON THE CONTRACT DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
5. THE STRUCTURAL DESIGN IS BASED ONLY ON THE STRUCTURE IN ITS COMPLETED STATE. CONTRACTORS AND THEIR SUBCONTRACTORS SHALL TAKE WHATEVER PRECAUTIONS ARE NECESSARY TO WITHSTAND ALL HORIZONTAL AND VERTICAL LOADING THAT MAY BE ENCOUNTERED DURING THE CONSTRUCTION PROCESS PRIOR TO THE COMPLETION OF THE STRUCTURE.
6. WRITTEN DISTANCES & ELEVATIONS SHALL GOVERN OVER SCALED DISTANCES & ELEVATIONS.

MATERIAL NOTES:

REINFORCED CONCRETE:

CONCRETE:	4500 PSI @ 28 DAYS
NON-SHRINK GROUT:	ASTM C1107
EUCLID NC GROUT OR APPROVED EQUAL	
REINFORCEMENT BARS:	
DEFORMED BARS	ASTM A615, GRADE 60
POST-TENSIONING STRAND	
7-WIRE LOW RELAXATION STRAND	A416, GRADE 270 LOW RELAXATION

DESIGN CRITERIA & LOADING

1. CODE: 2018 INTERNATIONAL BUILDING CODE (IBC). AMERICAN CONCRETE INSTITUTE (ACI) 318-05 - *BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE*
2. DESIGN LOADING

DEAD LOADS (D)

MATERIALS	CALCULATED

LIVE LOADS (L)

RECREATIONAL USE	100 PSF

CONCRETE NOTES:

1. LAP SPLICES AND 90 DEGREE END HOOKS SHALL BE AS SHOWN BELOW UNLESS NOTED. WHEN BARS OF TWO DIFFERENT SIZES ARE SPLICED, THE LONGER LAP LENGTH SHALL APPLY.

F'C=4000 PSI	SLAB, WALL, COLUMN		BEAM		90 DEGREE HOOK
BAR SIZE	BAR LAP	TOP BAR	BAR LAP	TOP BAR	
#3	19 IN.	24 IN.	28 IN.	36 IN.	6 IN.
#4	25 IN.	32 IN.	37 IN.	48 IN.	8 IN.
#5	31 IN.	40 IN.	46 IN.	60 IN.	10 IN.
#6	37 IN.	48 IN.	56 IN.	72 IN.	12 IN.

*TOP BAR LAP SPLICES ARE HORIZONTAL REINFORCEMENT PLACED SUCH THAT MORE THAN 12 IN. OF CONCRETE IS CAST IN THE MEMBER BELOW THE SPLICE

2. REINFORCING BARS SHALL HAVE THE FOLLOWING CONC. COVER UNLESS NOTED OTHERWISE.

FOOTINGS AND OTHER UNFORMED SURFACES	3"
CONCRETE EXPOSED TO EARTH, WEATHER OR FLUIDS	
#6 BARS OR LARGER	2"
#5 BARS OR SMALLER	1-1/2"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	
BEAMS, COLUMNS, TIES, SPIRALS AND STIRRUPS	1-1/2"
SLABS, WALLS & JOISTS	3/4"

3. CONCRETE SHALL BE PLACED WITHOUT CONSTRUCTION JOINTS EXCEPT WHERE SPECIFICALLY SHOWN ON THE DRAWINGS OR AS APPROVED BY THE ENGINEER.
4. CAST-IN-PLACE CONCRETE SHALL NOT BE PLACED IN STANDING WATER, ON FROZEN SOIL OR ON FROZEN CONCRETE.
5. FOR LOCATIONS AND DIMENSIONS OF SLEEVES, CURB, OPENINGS AND DEPRESSIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS, SEE CIVIL DRAWINGS. CONTRACTOR SHALL VERIFY AND COORDINATE REQUIREMENTS FOR AND LOCATION OF ABOVE ITEMS WHETHER SHOWN ON THE STRUCTURAL DRAWINGS OR NOT.
6. BEVEL ALL EXPOSED CORNERS OF CONCRETE 3/4" x 3/4".
7. PROVIDE EPOXY COATED REINFORCING FOR ALL CONCRETE EXPOSED TO WEATHER SUCH AS EXTERIOR PT SLAB AND MAINTENANCE STRIP.
8. WITH THE EXCEPTION OF THE CONSTRUCTION JOINTS LOCATED ON PLAN, NO CONTROL/CONSTRUCTIONS JOINTS ARE TO BE PROVIDED IN THE PT SLAB.
9. PROVIDE A MEDIUM BROOM AND ACID ETCHED FINISH TO THE POST-TENSIONED SLAB.

EXCAVATION NOTES:

1. TEMPORARY GROUND CONTROL IS BY CONTRACTOR DESIGN.
2. CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL TEMPORARY SHEETING AND BRACING NECESSARY TO PROTECT PERSONNEL AND ADJACENT PROPERTY FROM INJURY OR DAMAGE DURING CONSTRUCTION OPERATION.
3. EXCAVATIONS OR TRENCHING WITHIN CLOSE PROXIMITY TO UNDERGROUND STRUCTURES, UTILITIES, OR UTILITY POLES WILL REQUIRE PROTECTION AND SUPPORT TO PREVENT DAMAGE OR INTERRUPTION TO SERVICE. THE COST TO PROVIDE THIS PROTECTION SHALL BE INCLUDED IN THE CONTRACTOR'S TOTAL BASE BID PRICE.

FOUNDATION AND SOIL NOTES:

1. THE GEOTECHNICAL ENGINEER SHALL REVIEW AND APPROVE FOUNDATION BEARING SURFACES PRIOR TO THE PLACEMENT OF FOOTINGS OR FOUNDATION.
2. PROTECT FOUNDATION SOILS FROM FREEZING DURING CONSTRUCTION.
3. PLACE FILL AND BACKFILL AND COMPACT TO FOLLOWING MAXIMUM STANDARD PROCTOR DENSITIES UNLESS NOTED OTHERWISE IN THE SPECIFICATIONS:

LOCATION	DENSITY
FILL BELOW FOOTINGS	100%
FILL BELOW SLABS ON GRADE	98%
PIPE AND STRUCTURE EXCAVATIONS	95%
GREEN SPACES	90%

4. FOUNDATION DESIGN IS BASED ON REQUIREMENTS OF GEOTECHNICAL EVALUATION
   REPORT NO. 222114CPR
   DATED: 11/02/2022
   PREPARED BY: CONSTRUCTION MATERIALS TESTING
5. SOIL BEARING PRESSURES:
   ALLOWABLE SOIL BEARING PRESSURE: 1,500 PSF
6. COMPLETE REMOVAL OF VEGETATION, EXISTING FOUNDATIONS, AND FROST SUSCEPTIBLE SOILS.
7. FILL LIFTS LIMITED TO ONE FOOT THICKNESS.
8. PROVIDE 6 INCH MINIMUM GRANULAR SUBBASE.
9. PROVIDE 2 INCH MINIMUM THICK COARSE OF LEVELING MATERIAL ON TOP OF SUBBASE TO PROVIDE FIRM LEVEL SURFACE FOR PLACEMENT OF CONCRETE.
10. FILL MATERIAL TO SUPPORT SLAB IS RECOMMENDED TO EXTEND BEYOND PERIMETER OF PAD A MINIMUM OF 5 FEET AND SLOPED AWAY FROM PAD.

POST-TENSIONED SLABS NOTES:

1. COORDINATE INITIAL STRESSING WITHIN 24 HOURS WITH CONCRETE STRENGTH.
2. ALL PRE-STRESSING STEEL SHALL CONSIST OF SEVEN-WIRE LOW RELAXATION STRAND CONFORMING TO ASTM-A416. MINIMUM ULTIMATE TENSILE STRENGTH SHALL BE 27.0 KSI. STRANDS SHALL BE COATED WITH A PERMANENT RUST PREVENTIVE LUBRICANT AND A PLASTIC SHEATH OF AT LEAST 0.050 INCHES THICK.
3. TENDONS SHALL HAVE A MINIMUM OF 1-1/2" COVER IN THE SLAB TOP AND BOTTOMS UNLESS OTHERWISE SPECIFIED.
4. ALL TENDONS CENTERED IN SLAB THICKNESS OVER FULL LENGTH.
5. TENDONS AND BARS SHALL BE SECURELY SUPPORTED TO PREVENT BOTH VERTICAL AND HORIZONTAL MOVEMENT DURING CONCRETE PLACING. NO TENDON WILL BE UNSUPPORTED FOR MORE THAN 42 INCHES.
6. DAMAGED TENDON SHEATHING SHALL BE REPAIRED OR REPLACED.
7. CONCRETE SHALL BE WELL CONSOLIDATED ESPECIALLY IN THE VICINITY OF THE TENDON ANCHORS.
8. THE CONTRACTOR SHALL VERIFY ANY DROPS, BLOCK OUTS, FENCE POST, AND TENNIS NET LOCATIONS AND NOTIFY THE ENGINEER IF ANY DISCREPANCIES EXIST.
9. THE CONTRACTOR IS TO REMOVE ALL FORM WORK WITHOUT DAMAGE TO THE TENDONS PRIOR TO THE STRESSING OF TENDONS.
10. LOADING OF THE SLAB PRIOR TO TENSIONING SHALL NOT BE DONE WITHOUT THE APPROVAL AND DIRECTION OF THE DESIGN ENGINEER.
11. RESIDUAL COMPRESSIVE STRESS IS TO BE A MINIMUM 125 PSI.
12. TENDONS, POCKET FORMERS, PLASTIC CHAIRS, ANCHORS, AND WEDGES TO BE AS MANUFACTURED BY TECH-CON SYSTEMS, INC., SLIDELL, LA, OR APPROVED EQUAL.
13. TENDONS AND ANCHORS MAY BE MOVED UP TO 12" HORIZONTALLY TO AVOID CONFLICT WITH ELECTRICAL, FENCE POST, OR TENNIS NET REQUIREMENTS.
14. POST TENSIONED SLAB SHALL INCLUDE AN ENCAPSULATED ANCHORING SYSTEM. ENCAPSULATED SYSTEM SHALL CONFORM TO THE REQUIREMENTS SPECIFIED IN THE POST-TENSIONING INSTITUTE'S *SPECIFICATION FOR UNBONDED SINGLE STRAND TENDONS.*
15. POST-TENSIONED TENDON DESIGN IS BASED UPON 0.5" DIAMETER, 7 WIRE LOW-RELAXATION STRAND.
16. LIMIT ONE-WAY TENDON PULLS TO 120'-0".
17. SEE DETAIL 3/B.09 FOR LOCATING SLEEVES AND EMBEDDED ITEMS NEAR SLAB EDGES. OBTAIN PRIOR APPROVAL FROM STRUCTURAL ENGINEER BEFORE MAKING ANY OPENINGS THROUGH PT SLAB IF THE OPENINGS ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS.
18. DO NOT TIE EMBEDDED ITEMS OR CONDUIT TO TENDONS.
19. LIMIT PENETRATION OF ANCHORS DRILLED OR "SHOT" INTO THE SLAB FROM ABOVE OR BELOW TO 1-1/4" MAXIMUM.

REQUIRED SPECIAL STRUCTURAL INSPECTIONS:

IN ADDITION TO THE REGULAR INSPECTIONS, THE FOLLOWING STRUCTURAL ITEMS REQUIRE SPECIAL INSPECTION. SEE SPECIFICATION SECTION 01 45 33 AND MATERIAL SPECIFICATION SECTIONS FOR SPECIFIC REQUIREMENTS.

ITEM	REQUIRED?	REMARKS
1. SOILS COMPLIANCE PRIOR TO FOUNDATION CONSTRUCTION	YES	REFERENCE IBC 1704.7
2. STRUCTURAL CONCRETE	YES	REFERENCE IBC TABLE 1704.4
3. POST TENSIONING	YES	REFERENCE IBC TABLE 1704.4

SCALES SHOWN ARE BASED ON FULL SIZE (22X34) DRAWINGS. REDUCE SCALES BY 2 FOR 11X17 DRAWINGS.

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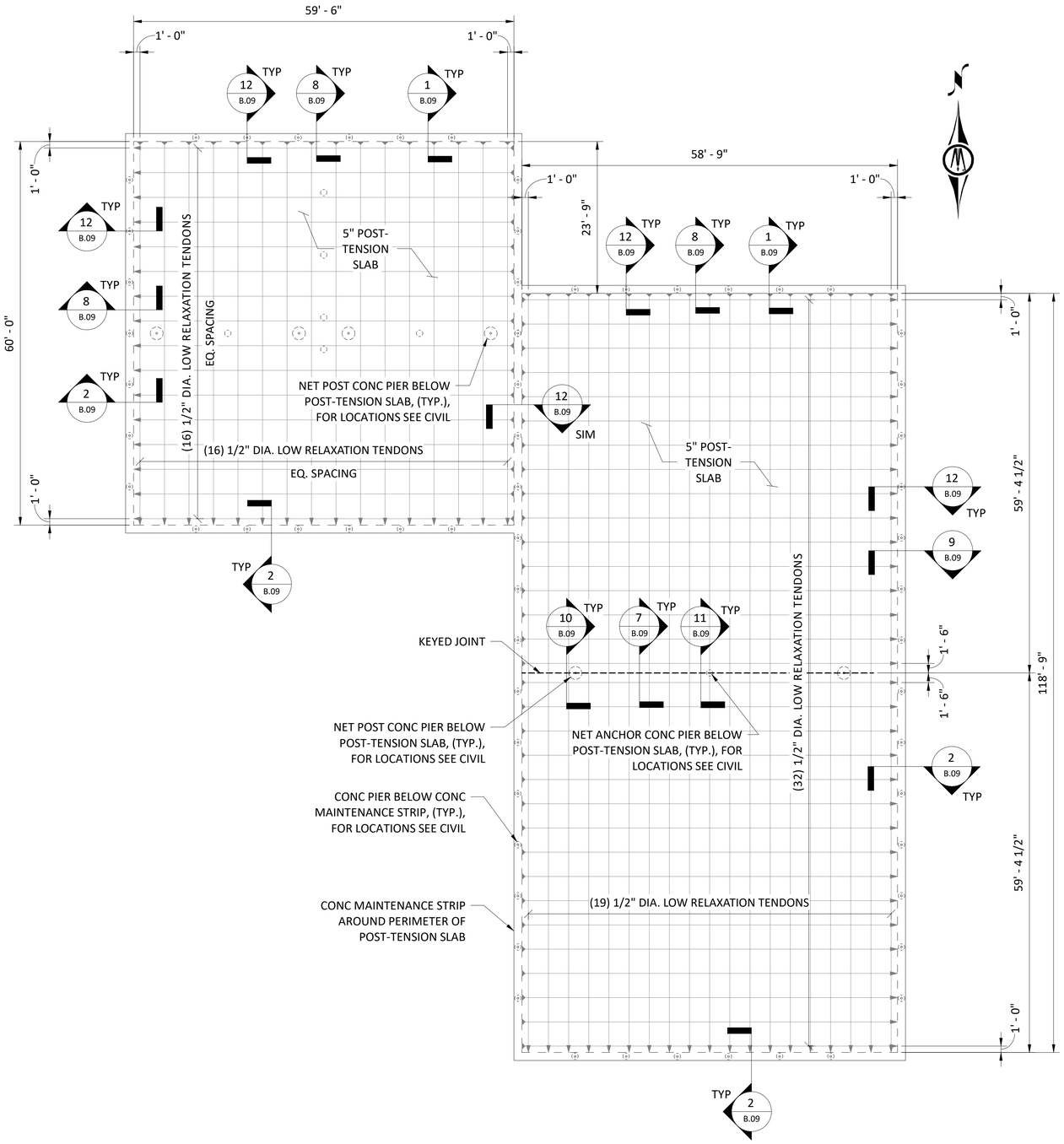
WINDSOR HEIGHTS the heart of it all

DESIGNED	GGB
DRAWN	JWE
CHECKED	DJS
CLIENT PROJ. NO	0T6.128908

CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
POST-TENSIONED SLAB NOTES

SHEET B.07



1 PLAN - POST-TENSIONED SLAB
1" = 10'-0"

POST-TENSION SLAB NOTES:

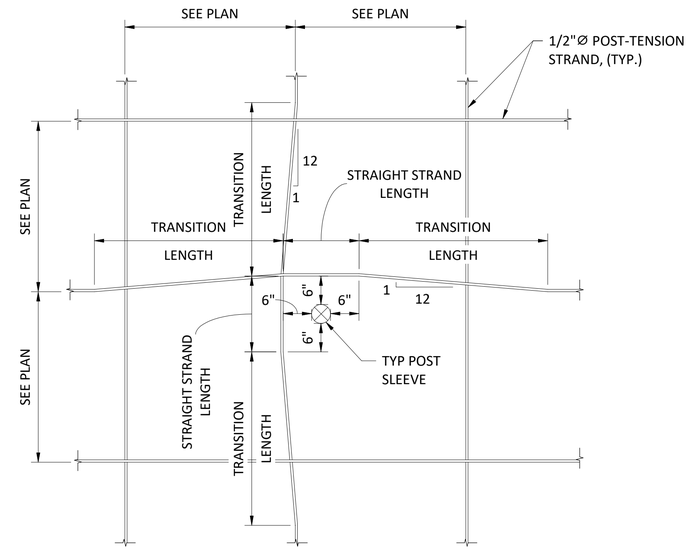
1. COORDINATE INITIAL STRESSING WITHIN 24 HOURS WITH CONCRETE STRENGTH.
2. ALL PRE-STRESSING STEEL SHALL CONSIST OF SEVEN-WIRE LOW RELAXATION STRAND CONFORMING TO ASTM-A416. MINIMUM ULTIMATE TENSILE STRENGTH SHALL BE 27.0 KSI. STRANDS SHALL BE COATED WITH A PERMANENT RUST PREVENTIVE LUBRICANT AND A PLASTIC SHEATH OF AT LEAST 0.050 INCHES THICK.
3. TENDONS SHALL HAVE A MINIMUM OF 1-1/2" COVER IN THE SLAB TOP AND BOTTOMS UNLESS OTHERWISE SPECIFIED.
4. ALL TENDONS CENTERED IN SLAB THICKNESS OVER FULL LENGTH.
5. TENDONS AND BARS SHALL BE SECURELY SUPPORTED TO PREVENT BOTH VERTICAL AND HORIZONTAL MOVEMENT DURING CONCRETE PLACING. NO TENDON WILL BE UNSUPPORTED FOR MORE THAN 42 INCHES.
6. DAMAGED TENDON SHEATHING SHALL BE REPAIRED OR REPLACED.
7. CONCRETE SHALL BE WELL CONSOLIDATED ESPECIALLY IN THE VICINITY OF THE TENDON ANCHORS.
8. THE CONTRACTOR SHALL VERIFY ANY DROPS, BLOCK OUTS, FENCE POST, AND TENNIS NET LOCATIONS AND NOTIFY THE ENGINEER IF ANY DISCREPANCIES EXIST.
9. THE CONTRACTOR IS TO REMOVE ALL FORM WORK WITHOUT DAMAGE TO THE TENDONS PRIOR TO THE STRESSING OF TENDONS.
10. LOADING OF THE SLAB PRIOR TO TENSIONING SHALL NOT BE DONE WITHOUT THE APPROVAL AND DIRECTION OF THE DESIGN ENGINEER.
11. RESIDUAL COMPRESSIVE STRESS IS TO BE A MINIMUM 125 PSI.
12. TENDONS, POCKET FORMERS, PLASTIC CHAIRS, ANCHORS, AND WEDGES TO BE AS MANUFACTURED BY TECH-CON SYSTEMS, INC., SLIDELL, LA, OR APPROVED EQUAL.
13. TENDONS AND ANCHORS MAY BE MOVED UP TO 12" HORIZONTALLY TO AVOID CONFLICT WITH ELECTRICAL, FENCE POST, OR TENNIS NET REQUIREMENTS.
14. TENDONS MAY BE TRANSITIONED HORIZONTALLY TO AVOID CONFLICT WITH ELECTRICAL, FENCE POST, OR TENNIS NET REQUIREMENTS, SEE DTL 2/B.08.
15. POST-TENSIONED SLAB SHALL INCLUDE AN ENCAPSULATED ANCHORING SYSTEM. ENCAPSULATED SYSTEM SHALL CONFORM TO THE REQUIREMENTS SPECIFIED IN THE POST-TENSIONING INSTITUTE'S *SPECIFICATION FOR UNBONDED SINGLE STRAND TENDONS*.

POST-TENSIONING LEGEND:

FIXED END — STRESSING END

GENERAL NOTES:

1. SCALES SHOWN ARE BASED ON FULL SIZE (22X34) DRAWINGS. REDUCE BY 2 FOR 11X17 DRAWINGS.
2. FOR GENERAL STRUCTURAL NOTES, SEE SHEET B.07.
3. FOR SLAB CONTROL AND CONSTRUCTION JOINTS OF MAINTENACE STRIP, SEE DTL 4/B.09 AND 5/B.09.
4. FOR METAL KEYWAY, SEE DTL 7/B.09.
5. FOR ANCHORAGE OPENING LIMITS, SEE DTL 3/B.09.
6. FOR TENDON TRANSITION, SEE DTL 2/B.08



2 DETAIL - TENDON TRANSITIONS
3/4" = 1'-0"

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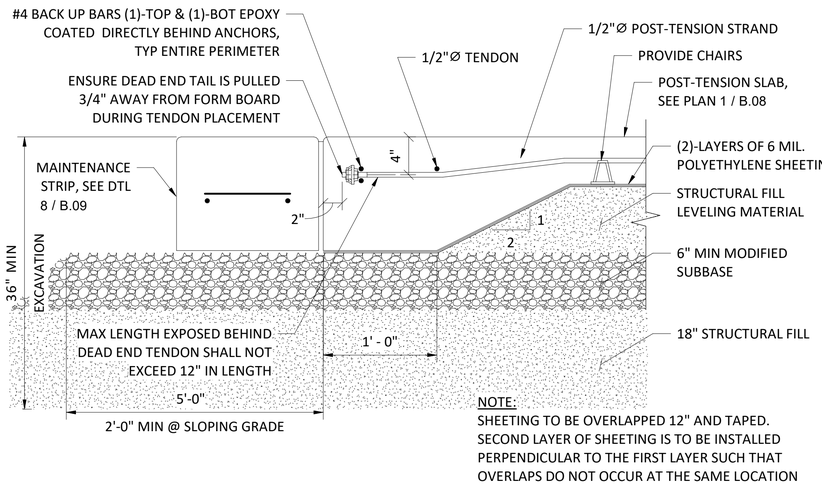
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

WINDSOR HEIGHTS the heart of it all

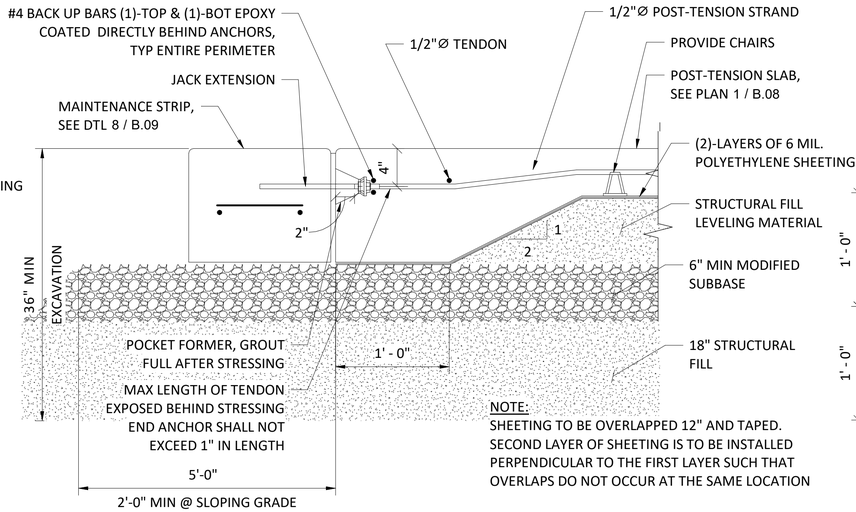
DESIGNED	GGB
DRAWN	JWE
CHECKED	DJS
CLIENT PROJ. NO	0T6.128908

CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
POST-TENSIONED SLAB PLANS

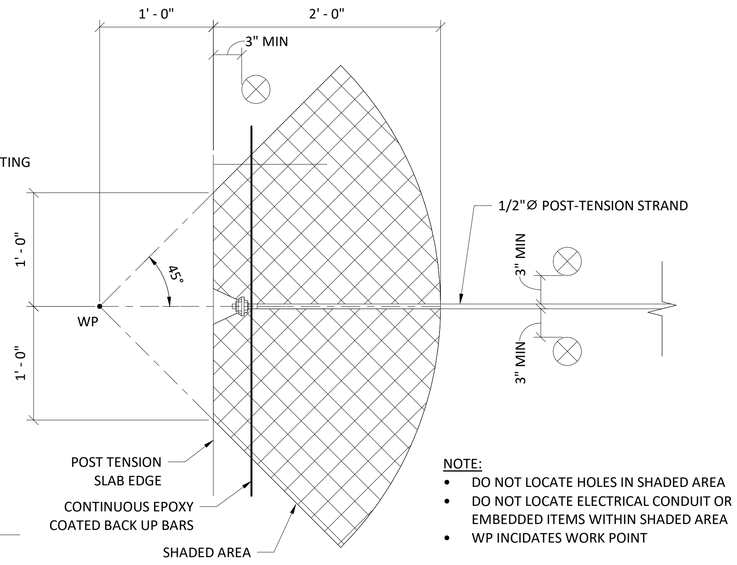
SHEET B.08



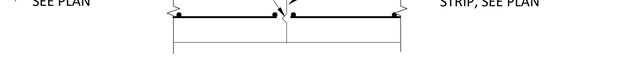
1 DETAIL - FIXED END POST-TENSION SLAB
1 1/2" = 1'-0"



2 DETAIL - STRESSING END POST-TENSION SLAB
1 1/2" = 1'-0"

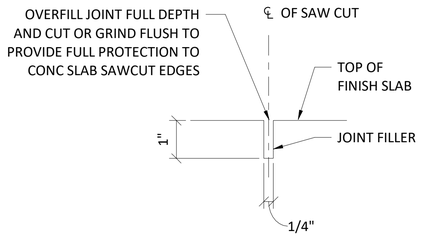


3 DETAIL - ANCHORAGE LOCATION OPENINGS
1 1/2" = 1'-0"

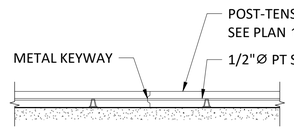


4 DETAIL - TYP MAINTENANCE STRIP CONTROL JOINT
1" = 1'-0"

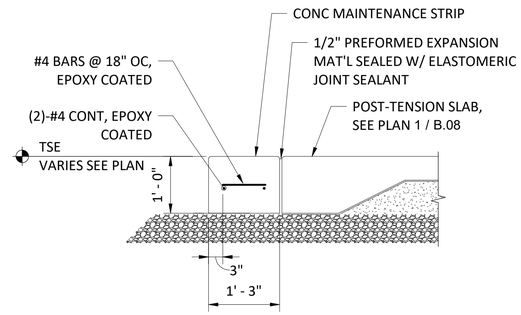
5 DETAIL - TYP MAINTENCE STRIP CONSTRUCTION JOINT
1" = 1'-0"



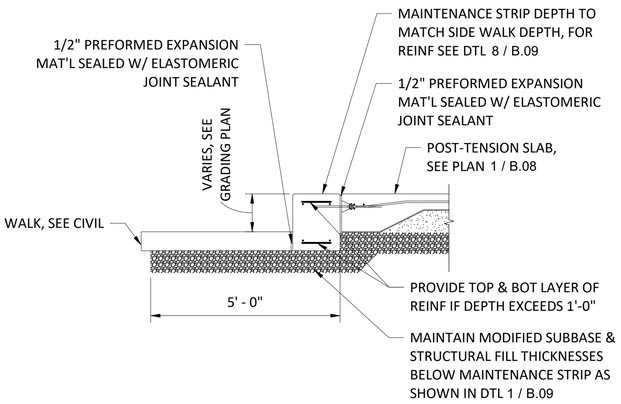
6 DETAIL - TYP MAINTENANCE STRIP SAWCUT
6" = 1'-0"



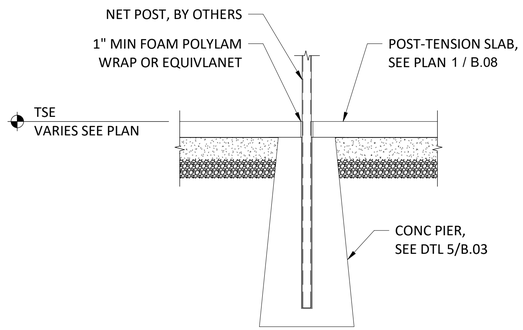
7 DETAIL - POST-TENSION SLAB KEYED JOINT
1/2" = 1'-0"



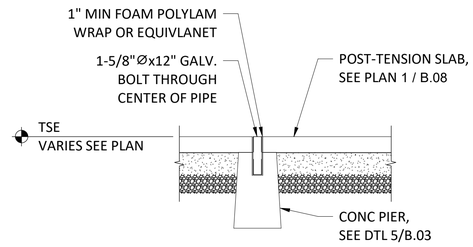
8 DETAIL - CONCRETE MAINTENANCE STRIP
3/4" = 1'-0"



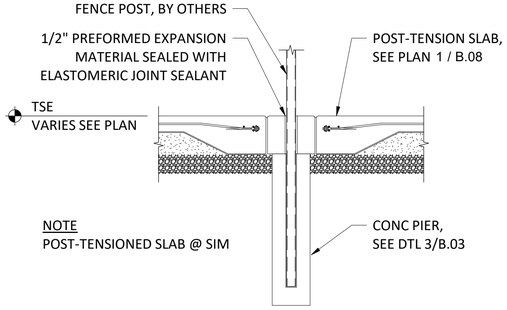
9 DETAIL - CONCRETE MAINTENANCE STRIP @ WALK
1/2" = 1'-0"



10 DETAIL - NET POST CONCRETE PIER FOUNDATION
1/2" = 1'-0"



11 DETAIL - NET ANCHOR CONCRETE PIER FOUNDATION
1/2" = 1'-0"



12 DETAIL - FENCE CONCRETE PIER FOUNDATION
1/2" = 1'-0"

SCALES SHOWN ARE BASED ON FULL SIZE (22X34) DRAWINGS. REDUCE SCALES BY 2 FOR 11X17 DRAWINGS.

REV	ISSUED FOR	DATE
0	BID SET	03-07-2023

BOLTON & MENK
430 E GRAND AVENUE, SUITE 101
DES MONIES, IOWA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

WINDSOR HEIGHTS the heart of it all

DESIGNED	GGB
DRAWN	JWE
CHECKED	DJS
CLIENT PROJ. NO	0T6.128908

CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
POST-TENSIONED SLAB DETAILS

SHEET B.09

ESTIMATED PROJECT QUANTITIES - BASE BID

ITEM NO.	ITEM CODE	ITEM	UNIT	QUANTITY	AS BUILT QUANT.
1	2010-A	CLEARING AND GRUBBING	LS	218	
2	2010-D-2	TOPSOIL, COMPOST AMENDED	CY	240	
3	2010-E	EXCAVATION, CLASS 10	CY	710	
4	2010-G	SUBGRADE PREPARATION	SY	1150	
5	2010-J	SUBBASE, MODIFIED, 6 IN	SY	1150	
6	4020-A-1	STORM SEWER, TRENCHED, RCP, 12 IN	LF	8	
7	4020-D	REMOVAL OF STORM SEWER, RCP, 12 IN	LF	22	
8	4040-A	SUBDRAIN, HDPE, 6"	LF	425	
9	4040-C	SUBDRAIN CLEANOUT, 6"	EA	6	
10	5010-A-1	WATER MAIN, TRENCHED, C900 DR18 PVC, RESTRAINED JOINT, 8", WITH TRACER WIRE	LF	149	
11	5010-A-1	WATER MAIN, TRENCHED, C900 DR18 PVC, STAB JOINT, 8", WITH TRACER WIRE	LF	74	
12	5010-C-2	FITTING, 8"	LB	312	
13	5010-E-1	WATER SERVICE PIPE, PEX, 1"	LF	15	
14	5010-H	WATER MAIN REMOVAL, 8"	LF	10	
15	5020-E	FLUSHING DEVICE (BLOW OFF), MIN 2 IN DIAMETER, TEMPORARY	EA	1	
16	5020-X-1	TAP FEE, 1", WATER SERVICE TAP	EA	1	
17	5020-X-2	PREPARE EXCAVATION FOR TAPPING SLEEVE AND VALVE	EA	1	
18	6010-B	INTAKE, SW-501	EA	1	
19	5020-X-1	TAP FEE, 1", REPLACEMENT TAP FOR WATER SERVICE TRANSFER	EA	1	
20	6010-F	MANHOLE ADJUSTMENT, MAJOR	EA	3	
21	6010-G	CONNECTION TO EXISTING MANHOLE	EA	1	
22	6010-X	CONNECTION TO EXISTING STORM PIPE	EA	1	
23	7010-A	PAVEMENT, PCC, 6 IN	SY	250	
24	7010-A	PAVEMENT, PCC, 7 IN	SY	955	
25	7010-E	CURB AND GUTTER, 2 FT, 7 IN	LF	225	
26	7030-A	REMOVAL OF SIDEWALK	SY	140	
27	7030-E	SIDEWALK, PCC, 5 IN	SY	560	
28	7030-E	SIDEWALK, PCC, 6 IN	SY	75	
29	7030-G	DETECTABLE WARNING	SF	40	
30	7040-H	PAVEMENT REMOVAL	SY	830	
31	7040-H	PAVEMENT REMOVAL, TENNIS COURT	SY	1440	
32	7040-I	CURB AND GUTTER REMOVAL	LF	515	
33	8020-B	PAINTED PAVEMENT MARKINGS, SOLVENT/WATERBORNE	STA	5.5	
34	8020-G	PAINTED SYMBOLS AND LEGENDS	EA	2	
35	8030-A	TEMPORARY TRAFFIC CONTROL	LS	1	
36	9010-A	HYDRAULIC SEEDING, SEEDING, FERTILIZING, AND MULCHING	LS	1	
37	9020-A	SOD	SQ	130	
38	9030-B	DECIDUOUS TREE	EA	9	
39	9040-D-1	FILTER SOCK, 8"	LF	1700	
40	9040-T-1	INLET PROTECTION DEVICE, DROP IN	EA	3	
41	9060-E	REMOVAL OF FENCE	LF	460	
42	9080-B	HANDRAIL, PAINTED	LF	90	
43	11020-A	MOBILIZATION	LS	1	
44	12010-X-X	STEEL BENCH	EA	4	
45	12010-X-X	LITTER RECEPTACLE	EA	2	
46	12010-X-X	BIKE RACK	EA	4	
47	12010-X-X	WATER FOUNTAIN	EA	1	
48	12010-X-X	METER PIT	EA	1	
49	12010-X-X	BASKETBALL HOOP	EA	2	
50	12010-X-X	TENNIS COURT	LS	1	
51	12010-X-X	PICKLEBALL COURT	LS	1	
52	12010-X-X	TRASH ENCLOSURE	LS	1	
53	12030-X-X	SPORT COURT ELECTRICAL	LS	1	

ESTIMATE REFERENCE INFORMATION

ITEM NO.	ITEM CODE	DESCRIPTION
1	2010-A	CLEARING AND GRUBBING THIS ITEM SHALL INCLUDE ALL NECESSARY TRIMMING AND CLEARING AND GRUBBING TO COMPLETE CONSTRUCTION. PROTECT ALL TREES NOT MARKED FOR REMOVAL.
2	2010-D-2	TOPSOIL, COMPOST AMENDED TOPSOIL WITHIN THE GRADING LIMITS OF THE PROJECT SHALL BE STRIPPED, SALVAGED, AND RESPREAD AT A MINIMUM DEPTH OF 6". ITEM INCLUDES HAULING OFF-SITE TO STORE AND HAULING BACK IN IF NEEDED. SALVAGED TOPSOIL SHALL REMAIN WITHIN THE RIGHT-OF-WAY UNLESS AGREEMENTS MADE WITH THE PROPERTY OWNER. CONTRACTOR TO PAY FOR RESTORATION COST IF LOCATED OUTSIDE OF THE RIGHT OF WAY.
3	2010-E	EXCAVATION, CLASS 10 ALL EXCESS MATERIAL TO BECOME THE PROPERTY OF THE CONTRACTOR AND HAULED OFFSITE. TOPSOIL SHALL BE PLACED AND SPREAD TO A MINIMUM THICKNESS OF 6" IN ALL DISTURBED TURF AREAS.
4	2010-G	SUBGRADE PREPARATION CONTRACTOR SHALL COMPACT SUBGRADE AND PROOF ROLL. IF SUBGRADE PASSES PROOF ROLL, NO SUBGRADE PREPARATION WILL BE REQUIRED. IF REQUIRED, SUBGRADE PREPARATION MUST BE COMPLETED IN 2 - 6" LIFTS. UNDER PROPOSED PAVEMENT, PLUS 4 FEET ON EACH SIDE. MOISTURE AND DENSITY TESTING WILL BE PROVIDED BY THE OWNER.
5	2010-J	SUBBASE, MODIFIED, 6 IN THIS ITEM INCLUDES, BUT IS NOT LIMITED TO, FURNISHING, PLACING, COMPACTING, AND TRIMMING TO THE PROPER GRADE.
6	4020-A-1	STORM SEWER, TRENCHED, RCP, 12 IN
7	4020-D	REMOVAL OF STORM SEWER, RCP, 12 IN REMOVAL AND DISPOSAL, OF PIPE; AND FURNISHING AND PLACING BACKFILL MATERIAL.
8	4040-A	SUBDRAIN, HDPE, 6"
9	4040-C	SUBDRAIN CLEANOUT, 6"
10	5010-A-1	WATER MAIN, TRENCHED, C900 DR18 PVC, RESTRAINED JOINT, 8", WITH TRACER WIRE PROVIDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO INSTALL C900 PVC PIPE OF SPECIFIED SIZE, TYPE, AND RESTRAINT IN AN OPEN TRENCH. CONTRACTOR'S EXCAVATION WILL BE IN ACCORDANCE WITH DES MOINES WATER WORKS (DMWW) RULES AND REGULATIONS LOCATED AT WWW.DMWW.COM AND OSHA REQUIREMENTS. WORK INCLUDES, BUT IS NOT LIMITED TO, TRENCH EXCAVATION AND SHORING, UTILITY LOCATION AND PROTECTION, DEWATERING, FURNISHING AND INSTALLING PIPE, PLACING AND COMPACTING BEDDING AND BACKFILL MATERIAL, FURNISHING AND INSTALLING TRACER SYSTEM, PRESSURE TESTING, AND DISINFECTION ALL IN ACCORDANCE WITH CHAPTER TWO DETAILED SPECIFICATIONS. EACH TYPE AND SIZE OF PIPE WILL BE MEASURED IN LINEAR FEET ALONG THE CENTERLINE OF THE PIPE, INCLUDING THE LENGTH THROUGH THE FITTINGS. THE ENGINEER WILL MEASURE THE LENGTH OF PIPE INSTALLED. THE CONTRACTOR WILL BE PAID THE CONTRACT UNIT PRICE TO THE NEAREST 0.1 FOOT OF PVC PIPE INSTALLED AS MEASURED.
11	5010-A-1	WATER MAIN, TRENCHED, C900 DR18 PVC, STAB JOINT, 8", WITH TRACER WIRE PROVIDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO INSTALL C900 PVC PIPE OF SPECIFIED SIZE, TYPE, AND RESTRAINT IN AN OPEN TRENCH. CONTRACTOR'S EXCAVATION WILL BE IN ACCORDANCE WITH DES MOINES WATER WORKS (DMWW) RULES AND REGULATIONS LOCATED AT WWW.DMWW.COM AND OSHA REQUIREMENTS. WORK INCLUDES, BUT IS NOT LIMITED TO, TRENCH EXCAVATION AND SHORING, UTILITY LOCATION AND PROTECTION, DEWATERING, FURNISHING AND INSTALLING PIPE, PLACING AND COMPACTING BEDDING AND BACKFILL MATERIAL, FURNISHING AND INSTALLING TRACER SYSTEM, PRESSURE TESTING, AND DISINFECTION ALL IN ACCORDANCE WITH CHAPTER TWO DETAILED SPECIFICATIONS. EACH TYPE AND SIZE OF PIPE WILL BE MEASURED IN LINEAR FEET ALONG THE CENTERLINE OF THE PIPE, INCLUDING THE LENGTH THROUGH THE FITTINGS. THE ENGINEER WILL MEASURE THE LENGTH OF PIPE INSTALLED. THE CONTRACTOR WILL BE PAID THE CONTRACT UNIT PRICE TO THE NEAREST 0.1 FOOT OF PVC PIPE INSTALLED AS MEASURED.
12	5010-C-2	FITTING, 8" PROVIDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO INSTALL DI FITTINGS OF SPECIFIED SIZE AND TYPE INCLUDING EXCAVATION, PIPE BEDDING, BONDING CABLES (DUCTILE IRON WATER MAIN ONLY), POLYETHYLENE ENCASEMENT, THRUST RESTRAINT, TRACER WIRE SYSTEM, BACKFILL, COMPACTION, PRESSURE TESTING, AND DISINFECTION, ALL IN ACCORDANCE WITH CHAPTER TWO DETAILED SPECIFICATIONS. THE ENGINEER WILL MEASURE THE TOTAL WEIGHT OF FITTINGS INSTALLED. THE CONTRACTOR WILL BE PAID THE CONTRACT UNIT PRICE PER POUND FOR EACH FITTING INSTALLED.
13	5010-E-1	WATER SERVICE PIPE, PEX, 1" PROVIDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO PREPARE EXCAVATION FOR THE TAP AND TO INSTALL NEW 1-INCH WATER SERVICE USING OPEN CUT METHOD IN ACCORDANCE WITH DMWW RULES AND REGULATIONS LOCATED AT WWW.DMWW.COM. WORK INCLUDES, BUT IS NOT LIMITED TO, CORPORATION ELBOW, PEX PIPE, NEW CURB STOP AND STOP BOX, AND COUPLINGS NEEDED TO CONNECT TO THE SERVICE. WORK ALSO INCLUDES EXCAVATION WITH SHORING IN ACCORDANCE WITH DMWW RULES AND REGULATIONS AND OSHA REQUIREMENTS, BACKFILL, COMPACTION AND SURFACE RESTORATION. CONTRACTOR IS REQUIRED TO COMPACT BACKFILL IN TAP HOLE AND TRENCH USING APPROPRIATELY SIZED EQUIPMENT TO OBTAIN REQUIRED COMPACTION, INCLUDING HANDHELD COMPACTION DEVICES. COST FOR REPLACEMENT OF UNSUITABLE BACKFILL WILL BE PAID BY THE CONTRACTOR.
14	5010-H	WATER MAIN REMOVAL, 8" PROVIDE MATERIAL, EQUIPMENT, AND LABOR TO CAP, REMOVE, AND PROPERTY DISPOSE OF EXISTING WATER MAIN INCLUDING ANY FITTINGS OR VALVES.
15	5020-E	FLUSHING DEVICE (BLOW OFF), MIN 2 IN DIAMETER, TEMPORARY PROVIDE ALL MATERIAL, LABOR, AND EQUIPMENT TO INSTALL AND REMOVE TEMPORARY FLUSHING DEVICE BLOWOFF, MINIMUM 2" DIAMETER, PER PLANS AND IN ACCORDANCE WITH SPECIAL PROVISIONS FOR WATER MAIN. IT IS ASSUMED THAT ONE FLUSHING DEVICE CAN BE USED AT EACH OF THE LOCATIONS REQUIRING A BLOWOFF. THE ENGINEER WILL COUNT THE NUMBER OF FLUSHING DEVICES INSTALLED. THE CONTRACTOR WILL BE PAID THE CONTRACT UNIT PRICE FOR EACH FLUSHING DEVICE INSTALLED.
16	5020-X-1	TAP FEE, 1", WATER SERVICE TAP PLUMBER'S PERFORMING WATER SERVICE INSTALLATION ARE REQUIRED TO SCHEDULE TAP BY CALLING DMWW CUSTOMER SERVICE 24 HOURS PRIOR TO TAP AT 515-283-8700. CONTRACTOR WILL PAY TAP FEE. CONTRACTOR'S PLUMBER MUST NOT HAVE PAST DUE ACCOUNTS WITH DMWW AT TIME OF TAP REQUEST OR THE TAP WILL BE DENIED. PLUMBER WILL BE REQUIRED TO SUPPLY A SURETY BOND WITH A MINIMUM VALUE OF $20,000 (BOND MUST BE UPDATED YEARLY UNLESS IT IS A CONTINUOUS BOND). PLUMBER WILL PROVIDE PLUMBING PERMIT NUMBER FROM CITY OR COUNTY WHERE PROJECT IS LOCATED AND PROPERTY ADDRESS WHERE REPLACEMENT TAPS ARE REQUIRED. THE ENGINEER WILL COUNT THE NUMBER OF 1-INCH REPLACEMENT TAPS. THE CONTRACTOR WILL BE PAID THE CONTRACT UNIT PRICE FOR EACH 1-INCH REPLACEMENT TAP.

REV	ISSUED FOR	DATE
0	CONSTRUCTION SET	03-07-2023

BOLTON & MENK
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WINDSOR HEIGHTS the heart of it all

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CLIENT PROJ. NO. 0T6.128908

CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
QUANTITIES AND ESTIMATE REFERENCE NOTES

SHEET C.01

17	5020-X-2	PREPARE EXCAVATION FOR TAPPING SLEEVE AND VALVE PROVIDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO PREPARE EXCAVATION FOR INSTALLATION OF THE TAPPING SLEEVE AND VALVE BY DMWW. WORK INCLUDES, BUT IS NOT LIMITED TO, EXCAVATION, SHORING, CLEANING THE MAIN PRIOR TO TAPPING, POLYETHYLENE ENCASEMENT, THRUST BLOCKING, SETTING OF THE VALVE BOX WITH VALVE BOX ADAPTER, BACKFILL, AND COMPACTION. DMWW ENGINEERING TECHNICIAN WILL SCHEDULE TAP AND WILL REQUEST TAPPING FEE BE CHARGED TO DMWW ENGINEERING PROJECT NUMBER. TAPPING FEE WILL BE PAID BY DMWW. TAPPING SLEEVE AND VALVE WILL BE PROVIDED AND INSTALLED BY DMWW. CONTRACTOR WILL HAVE EXCAVATION PREPARED AND PROPERLY SHORED IN ADVANCE OF SCHEDULED TAP IN ACCORDANCE WITH DMWW RULES AND REGULATIONS LOCATED AT WWW.DMWW.COM AND OSHA REQUIREMENTS. THE ENGINEER WILL COUNT THE NUMBER OF EXCAVATIONS COMPLETED. THE CONTRACTOR WILL BE PAID THE CONTRACT UNIT PRICE FOR THE NUMBER OF EXCAVATIONS.
18	6010-B	INTAKE, SW-501 EXCAVATION, FURNISHING BEDDING MATERIAL, PLACING BEDDING AND BACKFILL MATERIAL, COMPACTION, BASE, STRUCTURAL CONCRETE, REINFORCING STEEL, PRECAST UNITS (IF USED), CASTINGS, AND ADJUSTMENT RINGS. ANY SHORING SHALL BE CONSIDERED INCIDENTAL.
19	5020-X-1	TAP FEE, 1", REPLACEMENT TAP FOR WATER SERVICE TRANSFER
20	6010-F	MANHOLE ADJUSTMENT, MAJOR INCLUDES 1 NEW CASTING FOR INT 1. SHALL BE STAMPED WITH "STORM". ADJUSTING RINGS TO BE CRETEX PRO-RING OR APPROVED EQUAL.
21	6010-G	CONNECTION TO EXISTING MANHOLE
22	6010-X	CONNECTION TO EXISTING STORM PIPE THIS ITEM SHALL INCLUDE ALL NECESSARY MATERIALS TO CORE DRILL AND CONNECT SUBDRAIN TO EXISTING STORM PIPE AS INDICATED ON THE PLANS.
23	7010-A	PAVEMENT, PCC, 6 IN FINAL TRIMMING OF SUBGRADE OR SUBBASE, INTEGRAL CURB, BARS AND REINFORCEMENT, JOINTS AND SEALING, SURFACE CURING AND PAVEMENT PROTECTION, SAFETY FENCING, CONCRETE FOR RIGID HEADERS, AND BOXOUTS FOR FIXTURES. NO EXTRA PAYMENT FOR COLD WEATHER PAVING.
24	7010-A	PAVEMENT, PCC, 7 IN FINAL TRIMMING OF SUBGRADE OR SUBBASE, INTEGRAL CURB, BARS AND REINFORCEMENT, JOINTS AND SEALING, SURFACE CURING AND PAVEMENT PROTECTION, SAFETY FENCING, CONCRETE FOR RIGID HEADERS, AND BOXOUTS FOR FIXTURES. NO EXTRA PAYMENT FOR COLD WEATHER PAVING.
25	7010-E	CURB AND GUTTER, 2 FT, 7 IN
26	7030-A	REMOVAL OF SIDEWALK ALL REMOVALS TO BE MARKED AND MEASURED BY THE ENGINEER. FULL DEPTH SAW CUTS ALONG THE REMOVAL LIMITS ARE INCIDENTAL TO THIS ITEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL REMOVAL, EARTHWORK, SUBGRADE PREPARATION, MODIFIED SUBBASE AND PAVING EXPENSES DUE TO DAMAGED EDGES. ADDITIONAL REMOVAL TO BE DETERMINED BY ENGINEER. PAYMENT SHALL BE MADE FOR THE AREA OF PAVEMENT REMOVED REGARDLESS OF THICKNESS.
27	7030-E	SIDEWALK, PCC, 5 IN CONCRETE WILL BE C OR M MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. COMPACTION OF SUBGRADE IS INCIDENTAL TO THIS ITEM. CONCRETE TESTING WILL BE PROVIDED BY THE OWNER. NO EXTRA PAYMENT FOR COLD WEATHER PAVING.
28	7030-E	SIDEWALK, PCC, 6 IN CONCRETE WILL BE C OR M MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. COMPACTION OF SUBGRADE IS INCIDENTAL TO THIS ITEM. CONCRETE TESTING WILL BE PROVIDED BY THE OWNER. NO EXTRA PAYMENT FOR COLD WEATHER PAVING.
29	7030-G	DETECTABLE WARNING DETECTABLE WARNINGS SHALL MEET CURRENT PROWAG STANDARDS.
30	7040-H	PAVEMENT REMOVAL ALL REMOVALS TO BE MARKED AND MEASURED BY THE ENGINEER. FULL DEPTH SAW CUTS ALONG THE REMOVAL LIMITS ARE INCIDENTAL TO THIS ITEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL REMOVAL, EARTHWORK, SUBGRADE PREPARATION, MODIFIED SUBBASE AND PAVING EXPENSES DUE TO DAMAGED EDGES. ADDITIONAL REMOVAL TO BE DETERMINED BY ENGINEER. PAYMENT SHALL BE MADE FOR THE AREA OF PAVEMENT REMOVED REGARDLESS OF THICKNESS.
31	7040-H	PAVEMENT REMOVAL, TENNIS COURT ALL REMOVALS TO BE MARKED AND MEASURED BY THE ENGINEER. FULL DEPTH SAW CUTS ALONG THE REMOVAL LIMITS ARE INCIDENTAL TO THIS ITEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL REMOVAL, EARTHWORK, SUBGRADE PREPARATION, MODIFIED SUBBASE AND PAVING EXPENSES DUE TO DAMAGED EDGES. ADDITIONAL REMOVAL TO BE DETERMINED BY ENGINEER. PAYMENT SHALL BE MADE FOR THE AREA OF PAVEMENT REMOVED REGARDLESS OF THICKNESS. REMOVAL OF TENNIS COURT FENCING, FOOTINGS, PAVEMENT, NETTING, AND POSTS SHALL BE CONSIDERED INCIDENETAL TO THIS TIEM.
32	7040-I	CURB AND GUTTER REMOVAL
33	8020-B	PAINTED PAVEMENT MARKINGS, SOLVENT/WATERBORNE
34	8020-G	PAINTED SYMBOLS AND LEGENDS
35	8030-A	TEMPORARY TRAFFIC CONTROL ITEM SHALL INCLUDE ALL SIGNS, DELINEATORS, AND ARROW BOARDS AS STATED IN THESE PLANS FOR TRAFFIC CONTROL AND DETOUR. ANY SIGN PLACED FOR MORE THAN 3 DAYS SHALL BE PERMANENTLY MOUNTED ON A POST. EXTRA TYPE III BARRICADES AND CHANNELIZERS SHALL BE ON SITE AND DEPLOYED ACCORDING TO THE ENGINEER AND BE INCLUDED WITH THIS ITEM. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL TRAFFIC CONTROL DEVICES REQUIRED FOR THE DURATION OF THIS PROJECT IN ACCORDANCE WITH THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS ADOPTED BY THE IDOT. ALL TRAFFIC CONTROL DEVICES SHALL BE PROPERLY LOCATED AND KEPT CLEAN AND LEGIBLE BY THE CONTRACTOR TO PROVIDE FOR SAFE TRAFFIC FLOW AT ALL TIMES. COORDINATE ALL STREET CLOSURES WITH THE ENGINEER AND THE CITY.

36	9010-A	HYDRAULIC SEEDING, SEEDING, FERTILIZING, AND MULCHING A. SEED SUDAS TYPE 1 MIX IN AREAS INDICATED ON THE PLANS. THE COST FOR WATERING SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM. ROCK PICKING, FINISH GRADING, AND RESEEDING ARE CONSIDERED INCIDENTAL TO THIS ITEM. NO ADDITIONAL PAYMENTS WILL BE MADE FOR RESEEDED AREAS. THE CONTRACTOR IS RESPONSIBLE FOR MOWING AND MAINTAINING SEEDED AREAS UNTIL THE PROJECT IS ACCEPTED BY THE OWNER.
37	9020-A	SOD A. SOD AREAS INDICATED IN THE DRAWING SET. THE COST FOR WATERING SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM. ROCK PICKING, FINISH GRADING, AND RESODDING ARE CONSIDERED INCIDENTAL TO THIS ITEM. NO ADDITIONAL PAYMENTS WILL BE MADE FOR RESODDED AREAS. THE CONTRACTOR IS RESPONSIBLE FOR MOWING AND MAINTAINING SODDED AREAS UNTIL THE PROJECT IS ACCEPTED BY THE OWNER. SODDING OF AREAS DISTURBED OUTSIDE OF THE CONSTRUCTION LIMITS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
38	9030-B	DECIDUOUS TREE THIS ITEM INCLUDES LABOR, MATERIAL, AND EQUIPMENT TO FURNISH AND INSTALL TREES AS INDICATED IN THE PLANS. PLANTINGS SHALL HAVE ONE YEAR WARRANTY FROM DATE OF FINAL ACCEPTANCE FOR ALL PLANTINGS IN THE PROJECT. ACCEPTANCE OF PLANT MATERIALS CONSTRUES FULL PAYMENT (MINUS ANY PROJECT RETAINAGE). INCLUDES ALL, BUT NOT LIMITED TO, AMENDED SOILS DELIVERY, EXCAVATION, INSTALLATION, MULCHING, HERBICIDE, MAINTENANCE DURING ESTABLISHMENT PERIOD, AND WARRANTY AND REJECTION REPLACEMENTS.
39	9040-D-1	FILTER SOCK, 8" INCLUDES MAINTENANCE AND REMOVAL.
40	9040-T-1	INLET PROTECTION DEVICE, DROP IN INCLUDES MAINTENANCE AND REMOVAL.
41	9060-E	REMOVAL OF FENCE
42	9080-B	HANDRAIL, PAINTED A. INCLUDES ALL MATERIALS, LABOR, AND EQUIPMENT TO INSTALL HANDRAILS AS INDICATED IN THE PLANS. MEASUREMENT AND PAYMENT SHALL BE FOR THE LINEAL FOOT OF HANDRAILS INSTALLED ON THE PROJECT.
43	11020-A	MOBILIZATION THIS ITEM IS FOR ALL PREPARATORY WORK AND COSTS INCURRED BEFORE BEGINNING THE WORK ON THE PROJECT AND DURING THE PROJECT. THIS ITEM SHALL ALSO INCLUDE THE COSTS FOR ANY STAGED CONSTRUCTION AND EQUIPMENT SET UP TO COMPLETE THE WORK. NO CHANGE IN THE CONTRACT PRICE WILL BE MADE FOR ANY CHANGE IN STAGING OR COMBINATION THEREOF.
44	12010-X-X	STEEL BENCH THIS ITEM INCLUDES LABOR, MATERIALS AND EQUIPMENT TO FURNISH AND INSTALL STEEL BENCHES. SEE PLANS FOR LOCATIONS, DETAILS, AND SPEC INFORMATION. ITEM IS TO BE MEASURED AND PAID FOR ON A COUNT BASIS PER EACH.
45	12010-X-X	LITTER RECEPTACLE THIS ITEM INCLUDES LABOR, MATERIALS AND EQUIPMENT TO FURNISH AND INSTALL LITTER RECEPTACLES. SEE PLANS FOR LOCATIONS, DETAILS, AND SPEC INFORMATION. ITEM IS TO BE MEASURED AND PAID FOR ON A COUNT BASIS PER EACH.
46	12010-X-X	BIKE RACK THIS ITEM INCLUDES LABOR, MATERIALS AND EQUIPMENT TO FURNISH AND INSTALL BIKE RACKS. SEE PLANS FOR LOCATIONS, DETAILS, AND SPEC INFORMATION. ITEM IS TO BE MEASURED AND PAID FOR ON A COUNT BASIS PER EACH.
47	12010-X-X	WATER FOUNTAIN THIS ITEM INCLUDES ALL LABOR, MATERIAL, AND EQUIPMENT TO FURNISH AND INSTALL THE WATER FOUNTAIN AND ASSOCIATED ROCK DRAINAGE PIT. THE CONNECTION TO WATER SERVICE, ROCK DRAINAGE PIT, AND AT-GRADE MAINTENANCE VAULT TO DRAINAGE PIT ARE INCIDENTAL TO THIS ITEM.
48	12010-X-X	METER PIT THIS ITEM INCLUDES ALL LABOR, MATERIALS, AND EQUIPMENT TO INSTALL WATER SERVICE METER PIT AS SPECIFIED IN THESE PLANS. TESTING, PERMITTING, AND INSPECTIONS SHALL BE PAID FOR BY THE CONTRACTOR.
49	12010-X-X	BASKETBALL HOOP THIS ITEM INCLUDES LABOR, MATERIALS AND EQUIPMENT TO FURNISH AND INSTALL BASKETBALL HOOPS. HOOP FOOTINGS ARE INCIDENTAL. SEE PLANS FOR LOCATIONS, DETAILS, AND SPEC INFORMATION. ITEM IS TO BE MEASURED AND PAID FOR ON A COUNT BASIS PER EACH.
50	12010-X-X	TENNIS COURT THIS ITEM INCLUDES LABOR, MATERIAL, AND EQUIPMENT TO CONSTRUCT TENNIS COURT. INCIDENTAL TO THIS ITEM ARE EXCAVATION, POST-TENSIONED CONCRETE SLAB, CONCRETE MAINTENANCE STRIP (INCLUDING RETAINING CONDITIONS), AGGREGATE BASE AND SAND SUBBASE, ACRYLIC TENNIS COURT SURFACING, AND ALL ITEMS NECESSARY TO FURNISH AND INSTALL COURT FENCING AND GATES AS SHOWN ON PLANS. THIS ITEM INCLUDES THE SECTION OF SHARED FENCE WITH PICKLEBALL COURT. REFER TO SUPPLEMENTAL NOTES ON SHEET B.03 FOR COURT PAVEMENT SPECIFICATIONS AND TECHNICAL SPEC SECTION 32 18 23 ACRYLIC COURT SURFACING. THIS ITEM WILL BE PAID ON A LUMP SUM BASIS.
51	12010-X-X	PICKLEBALL COURT THIS ITEM INCLUDES LABOR, MATERIAL, AND EQUIPMENT TO CONSTRUCT PICKLEBALL COURT. INCIDENTAL TO THIS ITEM ARE EXCAVATION, POST-TENSIONED CONCRETE SLAB, CONCRETE MAINTENANCE STRIP, AGGREGATE BASE AND SAND SUBBASE, ACRYLIC PICKLEBALL COURT SURFACING, AND ALL ITEMS NECESSARY TO FURNISH AND INSTALL COURT FENCING AND GATES AS SHOWN ON PLANS. THIS ITEM DOES NOT INCLUDE THE SECTION OF SHARED FENCE WITH TENNIS COURT. REFER TO SUPPLEMENTAL NOTES ON SHEET B.03 FOR COURT PAVEMENT SPECIFICATIONS AND TECHNICAL SPEC SECTION 32 18 23 ACRYLIC COURT SURFACING. THIS ITEM WILL BE PAID ON A LUMP SUM BASIS.

REV	ISSUED FOR	DATE
0	CONSTRUCTION SET	03-07-2023

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430 E GRAND AVE, SUITE 101
DES MOINES, IOWA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
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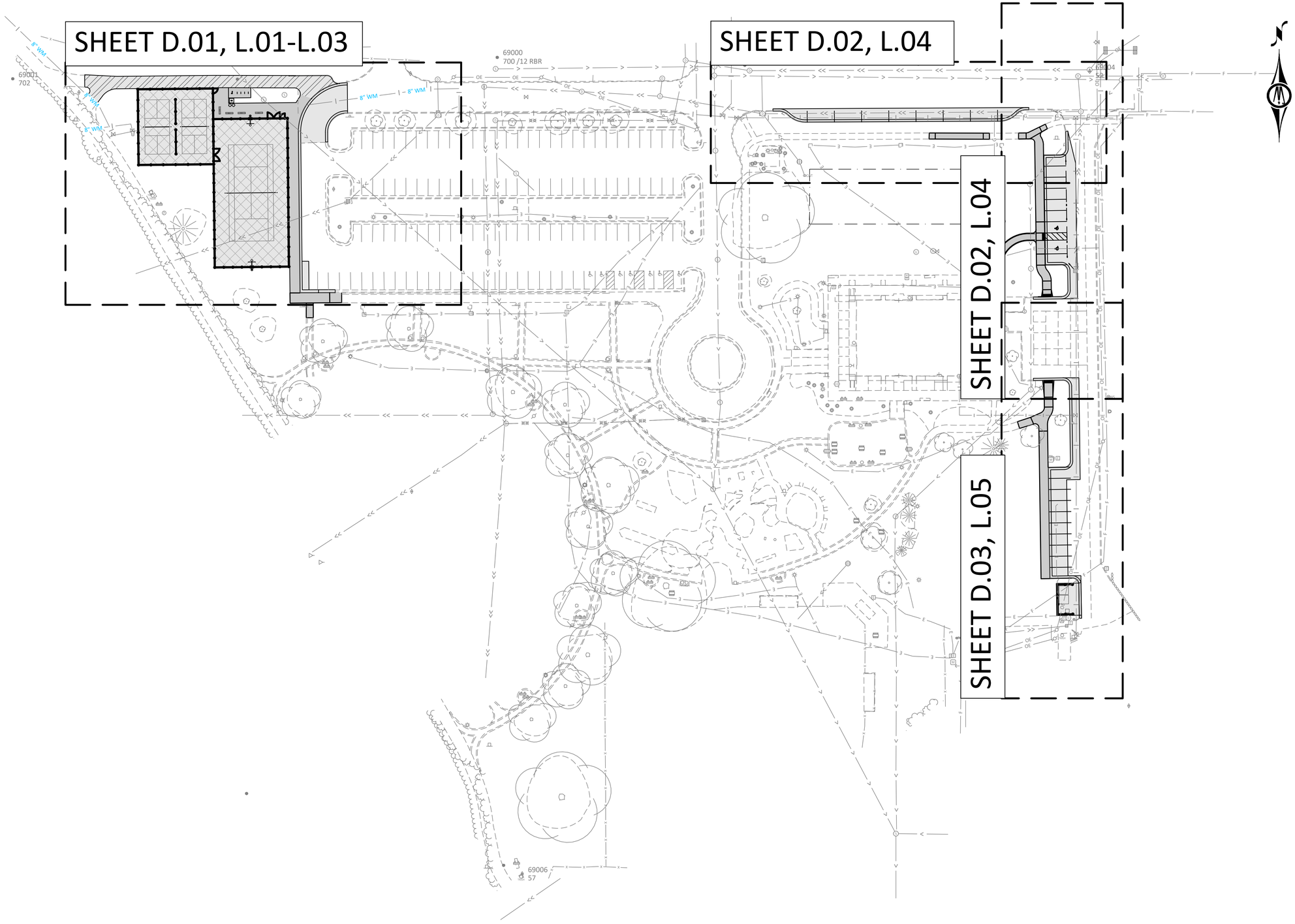
WINDSOR HEIGHTS the heart of it all

DESIGNED NW/NRJ/TJN
SEALED JLE
CHECKED CB
CLIENT PROJ. NO. 0T6.128908

CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
ESTIMATE REFERENCE NOTES

SHEET C.02



HORZ. SCALE 0 40 80 FEET

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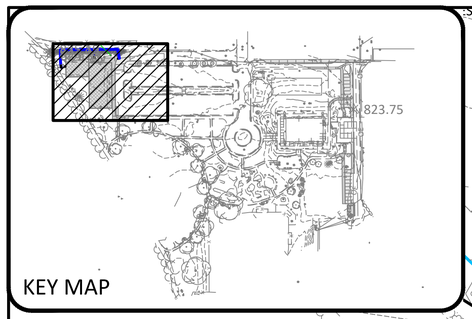
CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
OVERALL SITE MAP

SHEET D.00



TW: TOP OF WALL
TC: TOP OF CURB
FG: FORM GRADE
ALL ELEVATIONS ARE FORM GRADE UNLESS OTHERWISE SPECIFIED

LEGEND

- SIDEWALK, PCC, 5 IN
- PAVEMENT, PCC, 7 IN
- POST-TENSIONED PAVEMENT
- PAVEMENT, PCC, 6 IN

HORZ. SCALE 0 10 20 FEET

REV	ISSUED FOR	DATE
0	CONSTRUCTION SET	03-07-2023

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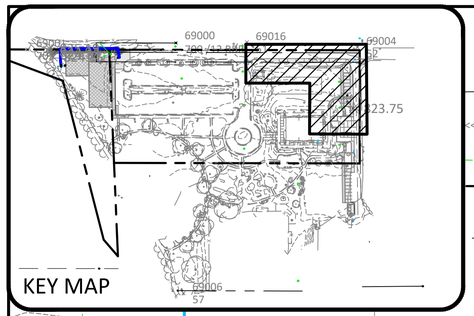
CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
SITE PLAN PHASE 1

SHEET D.01



SCHOOL STREET

SEE S.01 FOR CONTINUATION OF GRADING

MINOR ADJUST

R7-8A (12 X 18)

TW: TOP OF WALL
TC: TOP OF CURB
FG: FORM GRADE
ALL ELEVATIONS ARE FORM GRADE UNLESS OTHERWISE SPECIFIED

LEGEND

- SIDEWALK, PCC, 5 IN
- PAVEMENT, PCC, 7 IN
- POST-TENSIONED PAVEMENT
- PAVEMENT, PCC, 6 IN

PROPOSED FLOW LINE

HORZ. SCALE 0 10 20 FEET

REV	ISSUED FOR	DATE
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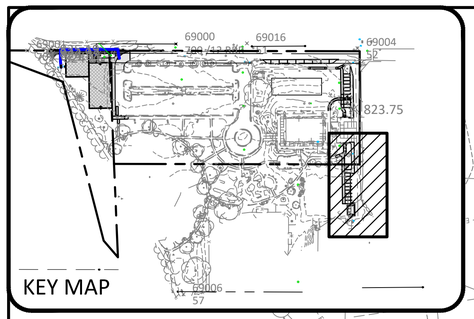
CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
SITE PLAN PHASE 1

SHEET D.02



CONTRACTOR TO VERIFY LOCATION OF FIBER LINE AND MOVE IF REQUIRED FOR LAYOUT OF TRASH ENCLOSURE POSTS

26'
24'
8' FENCE POST SPACING
6' POST SPACING
12'
18'
TRASH
REINSTALL GLASS AND CARDBOARD SIGN
18' (TYP.)
9' (TYP.)
SLW4 (TYP.)
NO LIP
TRASH ENCLOSURE SEE DETAIL ON B.01
ADJUST VALVE
24'
R5'
R3'
R12'

822.64 822.73 822.40 822.37 822.46 822.48 822.30 822.94 TC 822.57 FG 823.41 TC 822.91 FG 824.0 823.5 823 822.75 822.90 823.05 823.14 823.12 824.34 TC 823.84 FG 823.71 TC 823.21 FG 823.26 TC 822.76 FG 823.23 TC 823.73 FG 823.56 TC 823.06 FG 823.70

4.4% 1.6% 1.5% 1.9% 1.0% 0.0% 2.3%

TW: TOP OF WALL
TC: TOP OF CURB
FG: FORM GRADE
ALL ELEVATIONS ARE FORM GRADE UNLESS OTHERWISE SPECIFIED

LEGEND

- SIDEWALK, PCC, 5 IN
- PAVEMENT, PCC, 7 IN
- POST-TENSIONED PAVEMENT
- PAVEMENT, PCC, 6 IN

HORZ. SCALE 0 10 20 FEET

REV	ISSUED FOR	DATE
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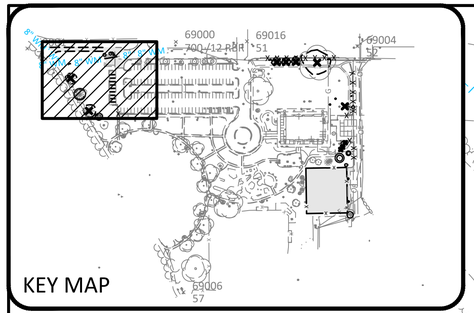
CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
SITE PLAN PHASE 1

SHEET D.03



FULL DEPTH SAW CUT

8" WM

ABANDON WATER MAIN

PROTECT EXISTING MANHOLES

SALVAGE EXISTING SIGNS TO OWNER, TYP.

REMOVE FENCE

(1) REMOVE TREE 8-12" DIAMETER

TRASH

TREE PROTECTION FENCE AROUND EXISTING 12" DBH TREE. FENCE TO PROTECT A MINIMUM OF 450 SF. SEE TREE PROTECTION DETAILS IN LANDSCAPE DETAILS. (TYP.)

FULL DEPTH SAWCUT 2' FROM BACK OF CURB

(1) REMOVE TREE 8-12" DIAMETER

TREE PROTECTION FENCE AROUND EXISTING 12" DBH TREE. FENCE TO PROTECT A MINIMUM OF 450 SF. SEE TREE PROTECTION DETAILS IN LANDSCAPE DETAILS. (TYP.)

FULL DEPTH SAW CUT AT NEAREST JOINT

NOTES

1. FIELD VERIFY ALL UTILITIES PRIOR TO REMOVALS. IF THE CONTRACTOR DETERMINES THAT FIELD CONDITIONS DIFFER FROM INFORMATION PROVIDED, THEY SHALL CEASE CONSTRUCTION ACTIVITIES AND CONTACT THE ENGINEER FOR DIRECTION.
2. SAW PAVEMENT FULL DEPTH AND IN STRAIGHT LINE (WHEN POSSIBLE) TO PROVIDE A UNIFORM EDGE.
3. PROTECT ALL EXISTING FEATURES NOT DESIGNATED FOR REMOVAL. ALL PUBLICLY-OWNED SIGNS SHALL BE SALVAGED TO THE CITY. ALL IN GRADE UTILITY BOXES AND HANDHOLES SHALL BE COORDINATED WITH THE UTILITY PROVIDER TO BE PROTECTED OR TEMPORARILY REMOVED AND REPLACED AND/OR ADJUSTED TO NEW FINISHED GRADES.
4. UNLESS NOTED OTHERWISE, ALL DEMOLISHED AND/OR REMOVED ITEMS SHALL BE HAULED COMPLETELY AWAY FROM THE SITE AND LEGALLY DISPOSED OF BY THE CONTRACTOR.
5. ALL VOIDS REMAINING AFTER THE REMOVAL OF PIPE, MANHOLES AND INLET STRUCTURES SHALL BE FILLED AND RECOMPACTED PER IOWA DOT STANDARDS.
6. CONTRACTOR TO COORDINATE WITH OWNER TO MODIFY OR CAP THE IRRIGATION SYSTEM AT THE NEW PROJECT EXTENTS.

LEGEND

- REMOVE PAVEMENT
- PROTECT ITEM
- REMOVE ITEM
- CONSTRUCTION EXTENTS
- CURB REMOVAL
- TREE PROTECTION FENCE

HORZ. SCALE 0 10 20 FEET

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WINDSOR HEIGHTS the heart of it all

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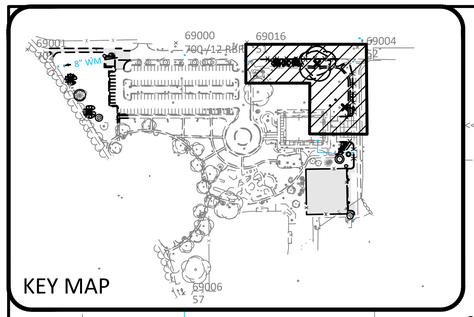
CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
REMOVALS

SHEET F.01



SALVAGE EXISTING SIGNS & REUSE, (TYP.)

(3) REMOVE TREES 8-12" DIAMETER

FULL DEPTH SAWCUT 2' FROM BACK OF CURB

(1) REMOVE TREE 18-24" DIAMETER

SALVAGE EXISTING SIGNS & REUSE, (TYP.)

PROTECT EXISTING CONCRETE WALKS/CURBS

FULL DEPTH SAW CUT AT NEAREST JOINT

PROTECT EXISTING SIGN

FULL DEPTH SAW CUT AT NEAREST JOINT

COLBY PARK MONUMENT /POWER, PRESERVE & PROTECT

COLBY PARK MONUMENT /POWER, PRESERVE & PROTECT

PROTECT EXISTING CONCRETE WALKS/CURBS

COLBY PARK MONUMENT /POWER, PRESERVE & PROTECT

PLACE REET LK

69004 52

REMOVE INTAKE & PIPE

FULL DEPTH SAWCUT 2' FROM BACK OF CURB

SALVAGE EXISTING SIGNS TO OWNER, TYP.

PROTECT INTAKE

FULL DEPTH SAWCUT 2' FROM BACK OF CURB

REMOVE AND REPLACE PAVEMENT IN STREET AND PUBLIC WALK

69004 52

NOTES

1. FIELD VERIFY ALL UTILITIES PRIOR TO REMOVALS. IF THE CONTRACTOR DETERMINES THAT FIELD CONDITIONS DIFFER FROM INFORMATION PROVIDED, THEY SHALL CEASE CONSTRUCTION ACTIVITIES AND CONTACT THE ENGINEER FOR DIRECTION.
2. SAW PAVEMENT FULL DEPTH AND IN STRAIGHT LINE (WHEN POSSIBLE) TO PROVIDE A UNIFORM EDGE.
3. PROTECT ALL EXISTING FEATURES NOT DESIGNATED FOR REMOVAL. ALL PUBLICLY-OWNED SIGNS SHALL BE SALVAGED TO THE CITY. ALL IN GRADE UTILITY BOXES AND HANDHOLES SHALL BE COORDINATED WITH THE UTILITY PROVIDER TO BE PROTECTED OR TEMPORARILY REMOVED AND REPLACED AND/OR ADJUSTED TO NEW FINISHED GRADES.
4. UNLESS NOTED OTHERWISE, ALL DEMOLISHED AND/OR REMOVED ITEMS SHALL BE HAULED COMPLETELY AWAY FROM THE SITE AND LEGALLY DISPOSED OF BY THE CONTRACTOR.
5. ALL VOIDS REMAINING AFTER THE REMOVAL OF PIPE, MANHOLES AND INLET STRUCTURES SHALL BE FILLED AND RECOMPACTED PER IOWA DOT STANDARDS.
6. CONTRACTOR TO COORDINATE WITH OWNER TO MODIFY OR CAP THE IRRIGATION SYSTEM AT THE NEW PROJECT EXTENTS. IRRIGATION WORK IS INCIDENTAL TO EXISTING SYSTEM AND TURF AREAS DISTURBED BY CONSTRUCTION.

LEGEND

- REMOVE PAVEMENT
- PROTECT ITEM
- REMOVE ITEM
- CONSTRUCTION EXTENTS
- CURB REMOVAL
- TREE PROTECTION FENCE

HORZ. SCALE 0 10 20 FEET

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CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
REMOVALS

SHEET F.02

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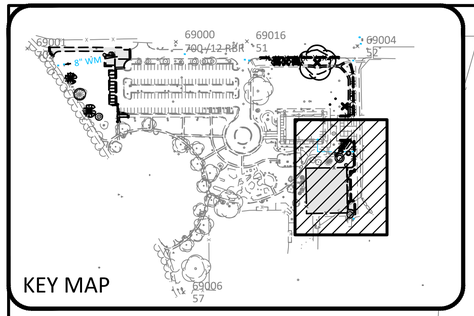

KEY MAP

NOTES

1. FIELD VERIFY ALL UTILITIES PRIOR TO REMOVALS. IF THE CONTRACTOR DETERMINES THAT FIELD CONDITIONS DIFFER FROM INFORMATION PROVIDED, THEY SHALL CEASE CONSTRUCTION ACTIVITIES AND CONTACT THE ENGINEER FOR DIRECTION.
2. SAW PAVEMENT FULL DEPTH AND IN STRAIGHT LINE (WHEN POSSIBLE) TO PROVIDE A UNIFORM EDGE.
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LEGEND

- REMOVE PAVEMENT
- PROTECT ITEM
- REMOVE ITEM
- CONSTRUCTION EXTENTS
- CURB REMOVAL
- TREE PROTECTION FENCE

REMOVE LIGHT POLE

REMOVE LIGHT POLE

REMOVE EXISTING FENCE

REMOVE TENNIS COURTS INCLUDING FENCING, PAVEMENT, FOOTINGS, & POSTS

TREE PROTECTION FENCE AROUND EXISTING 12" DBH TREE. FENCE TO PROTECT A MINIMUM OF 450 SF. SEE TREE PROTECTION DETAILS IN LANDSCAPE DETAILS. (TYP.)

PROTECT LIGHT POLE.

PROTECT BREAKER BOX

REMOVE LIGHT POLE

REMOVE LIGHT POLE

REMOVE AND REPLACE PAVEMENT IN STREET AND PUBLIC WALK

PROTECT EXISTING UTILITIES

FULL DEPTH SAWCUT 2' FROM BACK OF CURB

PROTECT EXISTING SIGN

HORZ. SCALE 0 10 20 FEET

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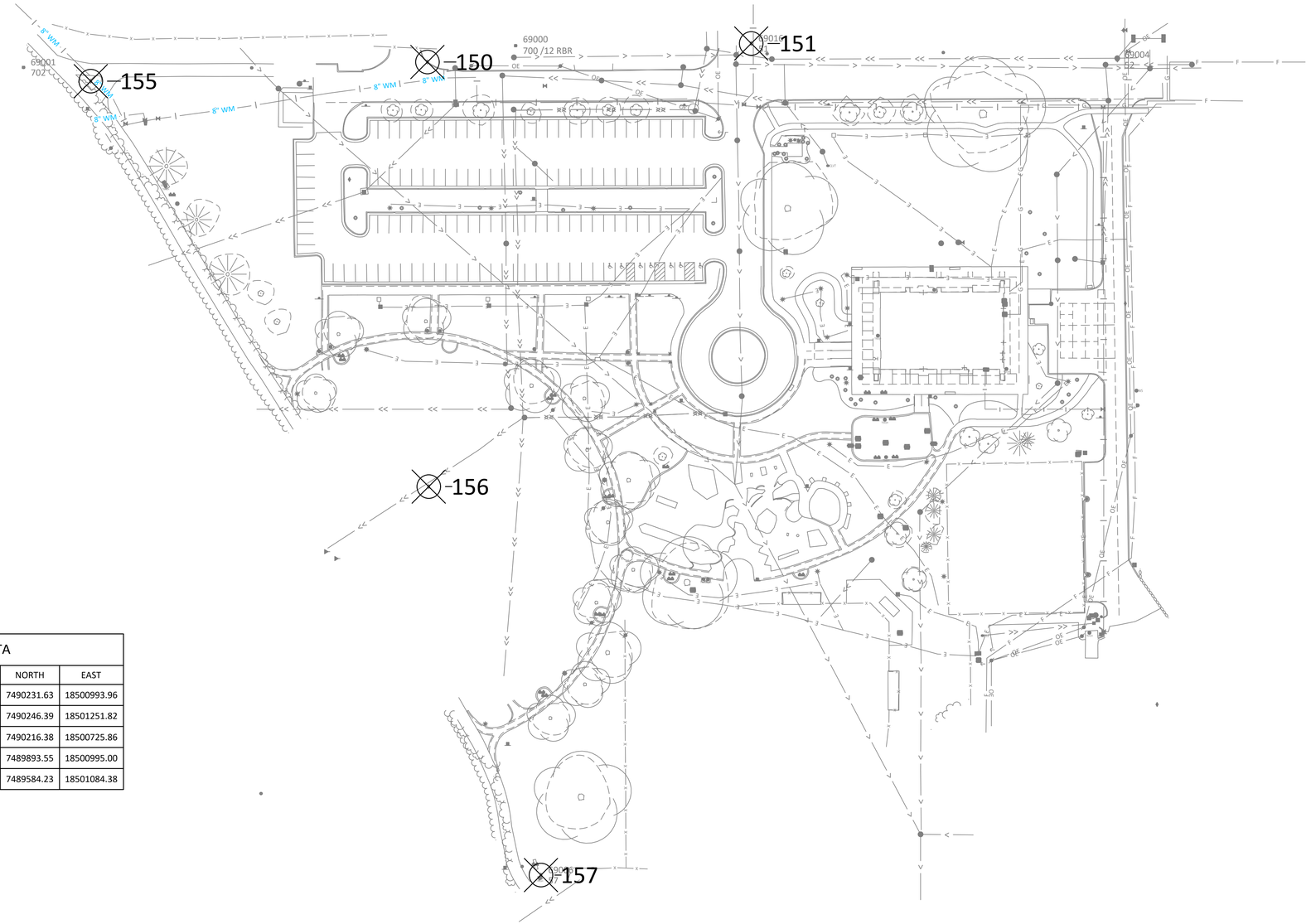
CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
REMOVALS

SHEET F.03



POINT LAT/LONG DATA				
POINT NUMBER	RAW DESCRIPTION	ELEVATION	NORTH	EAST
150	VFCP / CUT X BOC	822.861	7490231.63	18500993.96
151	VFCP / CUT X BOC	823.732	7490246.39	18501251.82
155	VFCP / 5/8" RBR BMI CAP	824.598	7490216.38	18500725.86
156	VFCP / 5/8" RBR BMI CAP	821.407	7489893.55	18500995.00
157	VFCP / 5/8" RBR BMI CAP	818.680	7489584.23	18501084.38

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CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
REFERENCES AND BENCHMARKS

SHEET G.01

NOTE:

PHASE D SHALL BE COMPLETED BEFORE OTHER PHASES TO ALLOW FOR STOCKPILE LOCATION

PHASE 1A

PHASE 1B

PHASE 1C

PHASE 1D

TYPE 3 BARRICADE

CONSTRUCTION FENCE

R11-2 (48 X 30) ROAD CLOSED

W20-1 (48 X 48) ROAD WORK AHEAD

W20-4 (48 X 48) ONE LANE ROAD AHEAD

R9-9 (30 X 18) SIDEWALK CLOSED

TOPSOIL STOCKPILE LOCATION

REV	ISSUED FOR	DATE
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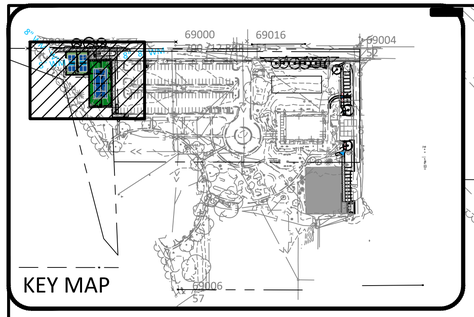
CITY OF WINDSOR HEIGHTS, IOWA

COLBY PARK PHASE 1

STAGING AND TRAFFIC CONTROL

SHEET J.01

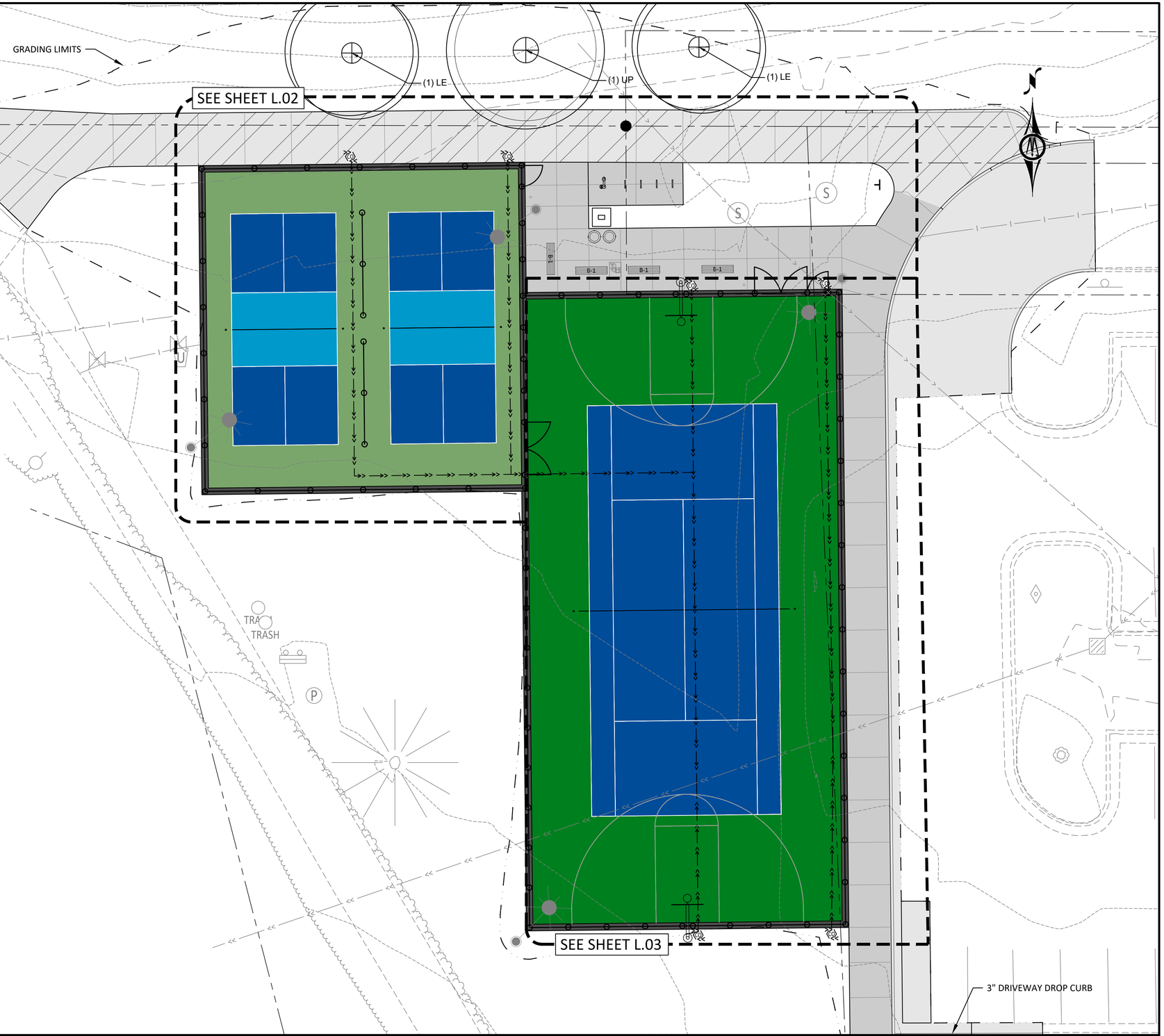


GENERAL NOTES:

1. UNDERGROUND UTILITIES: FIELD LOCATE UNDERGROUND UTILITIES PRIOR TO EXCAVATION FOR INSTALLATION OF SITE IMPROVEMENTS. IF A CONFLICT EXISTS BETWEEN PROPOSED SITE IMPROVEMENTS AND EXISTING OR PROPOSED UTILITIES, IMMEDIATELY ADVISE THE LANDSCAPE ARCHITECT.
2. HORIZONTAL CONTROL: HORIZONTAL CONTROL FOR THE LAYOUT OF SITE IMPROVEMENTS WILL BE PROVIDED BY THE ENGINEER. STATIONS AND OFFSETS INDICATED ON THE DRAWINGS ARE RELATIVE TO THE ROADWAY STATIONING.
3. ISOLATION JOINTS IN SIDEWALK PAVING: GENERALLY, ISOLATION JOINTS WILL BE LOCATED ALONG THE BACK OF CURB BETWEEN SIDEWALK PAVEMENTS AND PERMANENT STRUCTURES, WALLS AND BUILDINGS. ISOLATION JOINTS WILL ALSO BE LOCATED WHERE THE SIDEWALK PAVEMENT TURNS OR CHANGES DIRECTION, AND AT EVERY 100 FOOT MARK OF LINEAR SIDEWALK.
4. ALL SIDEWALKS AND CONCRETE SURFACES TO HAVE A LIGHT BROOM FINISH PERPENDICULAR TO DIRECTION OF TRAVEL UNLESS OTHERWISE NOTED, TYPICAL.
5. SAWCUTS TO BE MADE AS SHOWN ON PLANS UNLESS DIRECTED OTHERWISE BY LANDSCAPE ARCHITECT.
6. CONTRACTOR IS TO PRESERVE AND PROTECT EXISTING VEGETATION TO REMAIN AT ALL STAGES OF CONSTRUCTION. DAMAGED PLANT MATERIAL WILL BE REPLACED AT CONTRACTOR'S EXPENSE.

GENERAL LANDSCAPE IMPROVEMENT NOTES:

1. MASTER PLANT SCHEDULE: TREES, SHRUBS AND PERENNIALS ARE LISTED IN THE MASTER PLANT SCHEDULE. IF THERE IS A CONFLICT BETWEEN THE QUANTITIES SHOWN ON THE DRAWING AND THE QUANTITIES SHOWN IN THE PLANT SCHEDULE, THE PLAN QUANTITIES SHALL PREVAIL.
2. SEE EROSION CONTROL PLAN FOR SITE RESTORATION.



HATCH LEGEND:

- 6" PAVEMENT
- 5" SIDEWALK, SEE D SHEETS
- 8" PAVEMENT, SEE D SHEETS
- TYPE 1 PERMANENT LAWN SEEDING, PER SUDAS

SITE ELEMENT LEGEND:

- B-1 — BENCH
- LITTER RECEPTACLE
- BIKE RACK
- LIGHT POLE
- DRINKING FOUNTAIN

NOTE: REFER TO B-SERIES FOR ALL CONSTRUCTION DETAILS

- COURT SURFACING COLOR 1
- COURT SURFACING COLOR 2
- COURT SURFACING COLOR 3
- COURT SURFACING COLOR 4

NOTE: REFER TO B.02 FOR PLANT SCHEDULE

HORZ. SCALE 0 10 20 FEET

REV	ISSUED FOR	DATE
0	CONSTRUCTION SET	03-07-2023

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WINDSOR HEIGHTS the heart of it all

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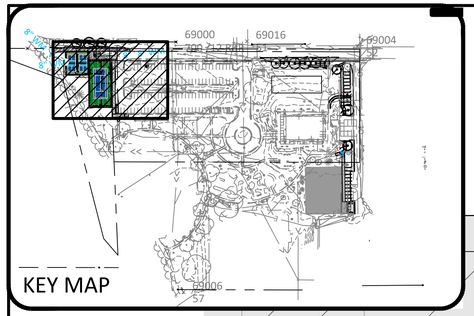
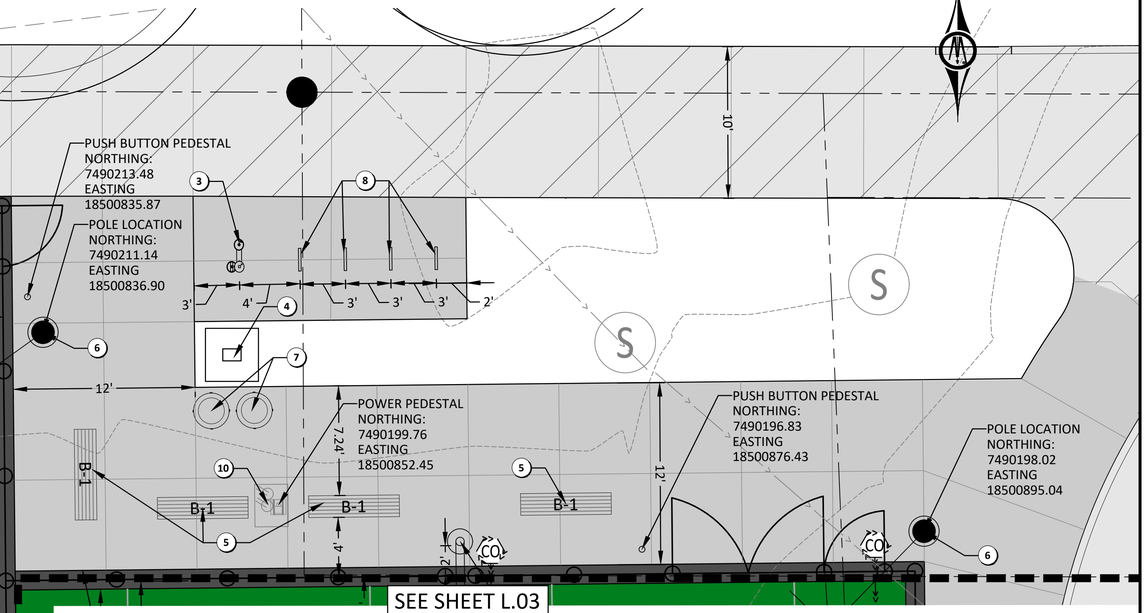
CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
SPORTS COURT LAYOUT & PLANTING PLAN

SHEET L.01



KEY MAP



LAYOUT NOTES:
CONTRACTOR TO FOLLOW USA PICKLEBALL STANDARDS FOR COURT SIZE AND LINE STRIPE DIMENSIONS. CONTRACTOR TO CONTACT PROJECT ENGINEER IF ANY DISCREPANCIES EXIST.

DIMENSIONS PROVIDED ARE TO THE OUTSIDE OF THE LINES

SURFACING COLOR OPTIONS TO BE SUBMITTED TO OWNER FOR FINAL SELECTION. COLOR PROVIDED (BLUE COURT, LIGHT GREEN BORDER, ICE BLUE, NO-FOLLEY AREA.) ARE FOR BIDDING REFERENCE ONLY.

COURT LINES TO BE 2" WIDE, COLOR WHITE

NOTE:CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR ALL COURT ELEMENTS, INCLUDING FENCE, GATE AND POST LAYOUT, FENCE PRODUCTS, NET AND POST PRODUCTS, AND COURT SURFACING.

REFER TO TECHNICAL SPEC SECTION 32 18 23 - ACRYLIC COURT SURFACING FOR COURT FINISH AND MARKINGS.

NOTE: REFER TO B.02 FOR PLANT SCHEDULE

- COURT SURFACING COLOR 1
- COURT SURFACING COLOR 2
- COURT SURFACING COLOR 3

HATCH LEGEND:

- 6" PAVEMENT
- 5" SIDEWALK, SEE D SHEETS
- 8" PAVEMENT, SEE D SHEETS
- TYPE 1 PERMANENT LAWN SEEDING, PER SUDAS

SITE ELEMENT LEGEND:

- B-1 BENCH
- LITTER RECEPTACLE
- BIKE RACK
- LIGHT POLE
- DRINKING FOUNTAIN

NOTE: REFER TO B-SERIES FOR ALL CONSTRUCTION DETAILS

SITE LAYOUT KEYNOTES:

1. PICKLEBALL COURTS, SEE FENCING LAYOUT FOR MORE INFORMATION
2. TENNIS COURT, SEE FENCING LAYOUT FOR MORE INFORMATION
3. DRINKING FOUNTAIN, SEE DETAIL 1/B.04
4. DRINKING FOUNTAIN DRAINAGE PIT, SEE DETAIL 2/B.04
5. BENCH, SEE DETAIL 2/B.05
6. LIGHT POLE, SEE ELECTRICAL PLANS
7. TRASH & RECYCLING RECEPTACLES, SEE DETAIL 2/B.05
8. BIKE RACKS, SEE DETAILS 2/B.05
9. BASKETBALL HOOP, SEE DETAILS B.05
10. CHARGING STATION, SEE ELECTRICAL PLANS
11. PICKLEBALL NETS, SEE SPECIFICATIONS
12. PICKLEBALL NET POSTS, SEE DETAIL 5/B.03
13. TENNIS NET, SEE SPECIFICATIONS
14. TENNIS NET POSTS, SEE DETAIL 5/B.03

HORZ. 0 5 10 SCALE FEET

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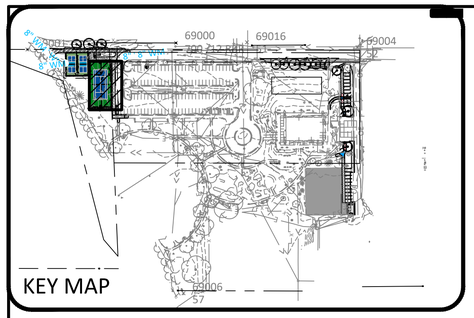
CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
SPORTS COURT LAYOUT & PLANTING PLAN

SHEET L.02



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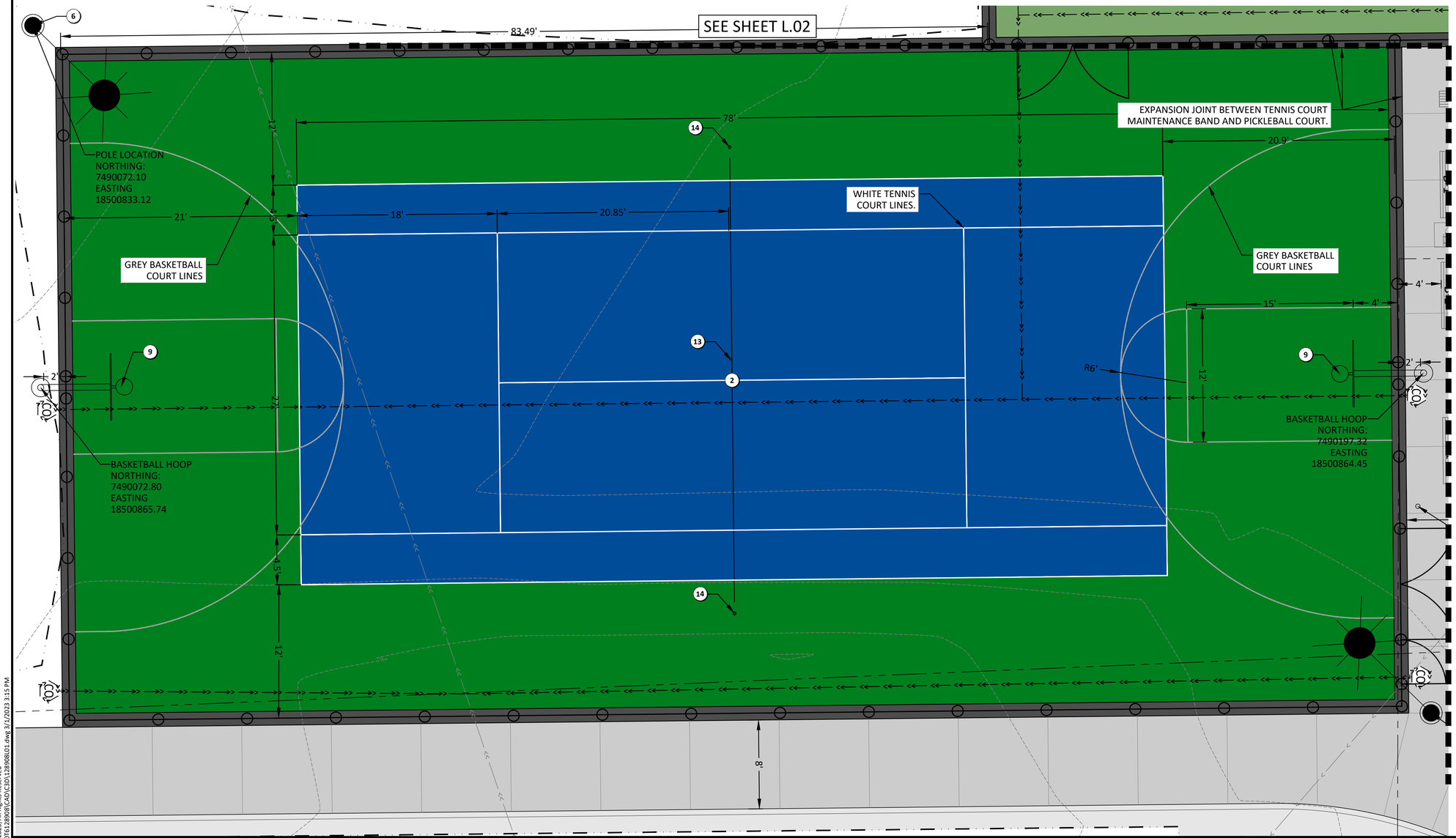

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COURT LINES TO BE 2" WIDE, COLOR WHITE

REFER TO TECHNICAL SPEC SECTION 32 18 23 - ACRYLIC COURT SURFACING FOR COURT FINISH AND MARKINGS.

- COURT SURFACING COLOR 2
- COURT SURFACING COLOR 4

SITE LAYOUT KEYNOTES:

1. PICKLEBALL COURTS, SEE FENCING LAYOUT FOR MORE INFORMATION
2. TENNIS COURT, SEE FENCING LAYOUT FOR MORE INFORMATION
3. DRINKING FOUNTAIN, SEE DETAIL 1/B.04
4. DRINKING FOUNTAIN DRAINAGE PIT, SEE DETAIL 2/B.04
5. BENCH, SEE DETAIL 2/B.05
6. LIGHT POLE, SEE ELECTRICAL PLANS
7. TRASH & RECYCLING RECEPTACLES, SEE DETAIL 2/B.05
8. BIKE RACKS, SEE DETAILS 2/B.05
9. BASKETBALL HOOP, SEE DETAILS B.05
10. CHARGING STATION, SEE ELECTRICAL PLANS
11. PICKLEBALL NETS, SEE SPECIFICATIONS
12. PICKLEBALL NET POSTS, SEE DETAIL 5/B.03
13. TENNIS NET, SEE SPECIFICATIONS
14. TENNIS NET POSTS, SEE DETAIL 5/B.03

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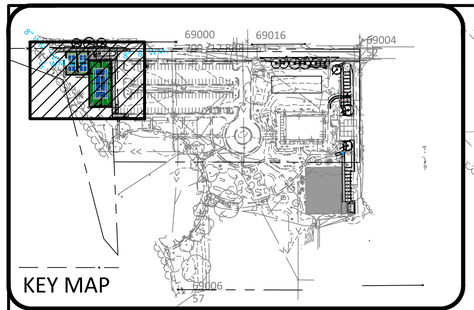
CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
SPORTS COURT LAYOUT & PLANTING PLAN

SHEET L.03



FENCE LAYOUT NOTES:

1. CHECK ALL PLAN AND DETAIL DIMENSIONS AND VERIFY SAME BEFORE FIELD LAYOUT.
2. FOR 10' AND 6' HIGH FENCE, TENNIS AND PICKLEBALL COURT FENCE POSTS (CORNER, END, AND GATE) SHALL BE SET IN CONCRETE FOOTINGS AS DETAILED. LINE POSTS MAY BE AIR DRIVEN UNLESS OTHERWISE NOTED.
3. FOR 4' HIGH FENCE, LINE POSTS MAY BE AIR DRIVEN (AT CONTRACTOR'S OPTION). ALL OTHER POSTS SHALL BE SET IN CONCRETE FOOTINGS AS DETAILED.
4. BOTTOM RAIL SHALL BE SET A MAXIMUM 1" ABOVE PAVEMENT SURFACE.
5. CHAIN LINK FENCE FABRIC SHALL BE AT LEAST AS HIGH AS THE TOP RAIL AND SHALL EXTEND NO MORE THAN 1" ABOVE THE THE TOP RAIL.
6. ALL GATES SHALL BE EQUIPPED WITH APPROPRIATE LOCKING DEVICES - REFER TO DETAILS 17 AND 18 ON SHEET C2.11.
7. PROTECT DRAINTILE DURING FENCE INSTALLATION.
8. ALL TENNIS COURT AND PICKLEBALL FENCING SHALL SHALL HAVE BLACK VINYL FINISH.

FENCE KEYNOTES:

- (A) SINGLE CHAIN LINK GATE, SEE DETAIL 4/B.03
- (B) DOUBLE CHAIN LINK GATE - MAINTENANCE USE, SEE DETAIL 4/B.03
- (C) 4' HIGH CHAIN LINK FENCE WITH TOP, MIDDLE AND BOTTOM RAIL (SPACING = 10' O.C. MAX EQUALLY SPACED) , SEE DETAIL 6/B.03
- (D) 6' HIGH CHAIN LINK FENCE WITH TOP, MIDDLE AND BOTTOM RAIL (SPACING = 10' O.C. MAX EQUALLY SPACED) CHAIN LINK FENCE, SEE DETAIL 6/B.03
- (E) 10' HIGH CHAIN LINK FENCE WITH TOP, MIDDLE AND BOTTOM RAIL (SPACING = 8' O.C. MAX EQUALLY SPACED) CHAIN LINK FENCE, SEE DETAIL 6/B.03

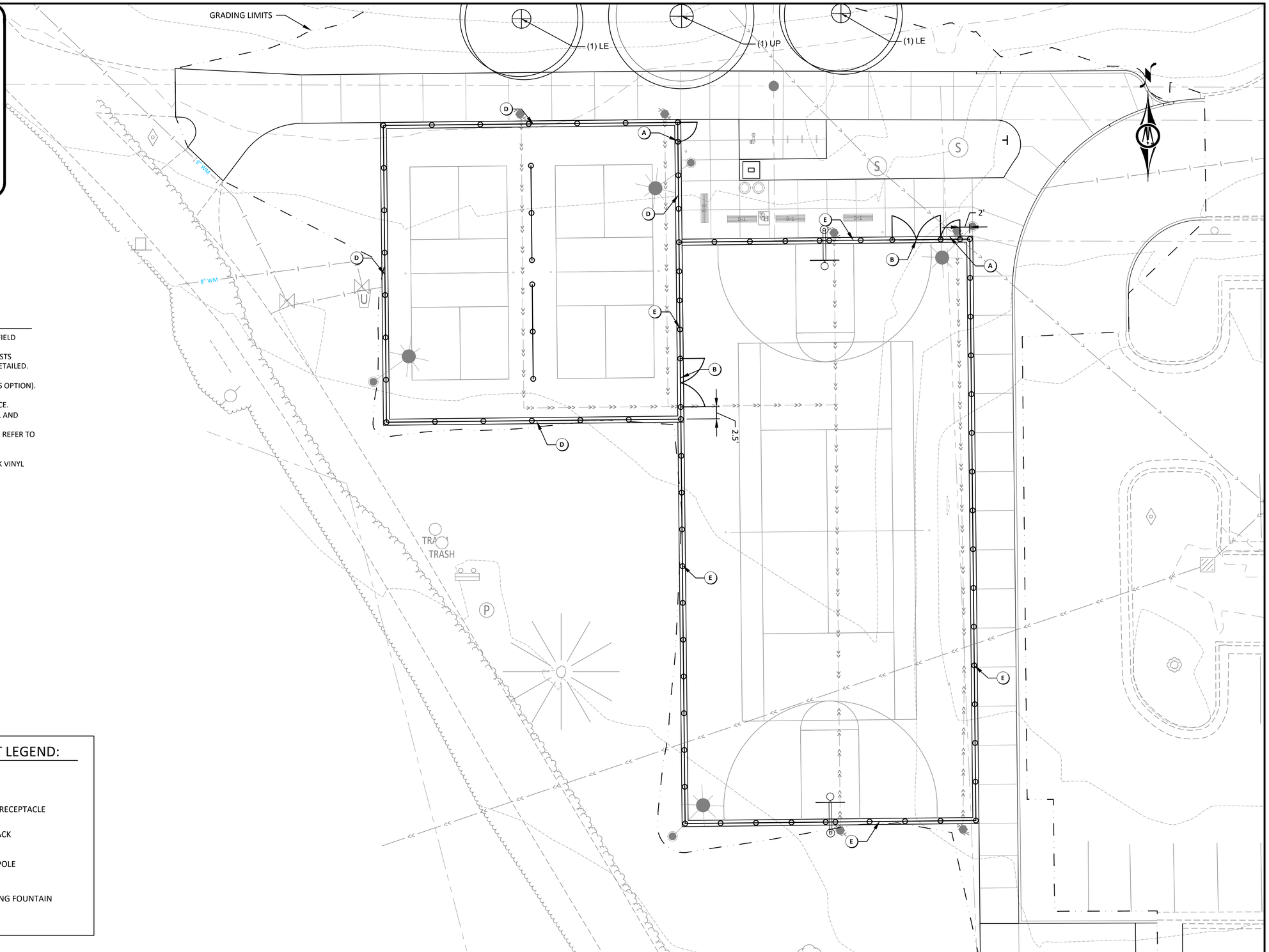
HATCH LEGEND:

- 6" PAVEMENT
- 5" SIDEWALK, SEE D SHEETS
- 8" PAVEMENT, SEE D SHEETS
- TYPE 1 PERMANENT LAWN SEEDING, PER SUDAS

SITE ELEMENT LEGEND:

- B-1 BENCH
- LITTER RECEPTACLE
- BIKE RACK
- LIGHT POLE
- DRINKING FOUNTAIN

NOTE: REFER TO B-SERIES FOR ALL CONSTRUCTION DETAILS



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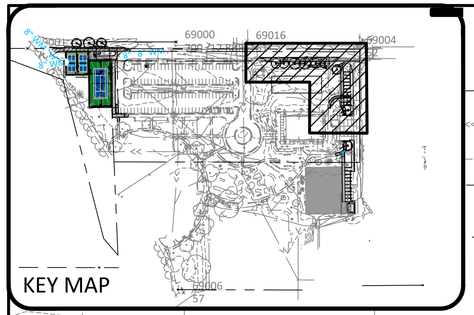
CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
SPORTS COURT FENCING PLAN

SHEET L.04



SCHOOL STREET

(2) GP

(2) UP

(2) GP

GRADING LIMITS

69004
S2

(1) LE

GRADING LIMITS

(1) UP

SCHOOL STREET

NOTE: REFER TO B.02 FOR PLANT SCHEDULE

HATCH LEGEND:

- 6" PAVEMENT
- 5" SIDEWALK, SEE D SHEETS
- 8" PAVEMENT, SEE D SHEETS
- TYPE 1 PERMANENT LAWN SEEDING, PER SUDAS

NOTE: REFER TO B-SERIES FOR ALL CONSTRUCTION DETAILS

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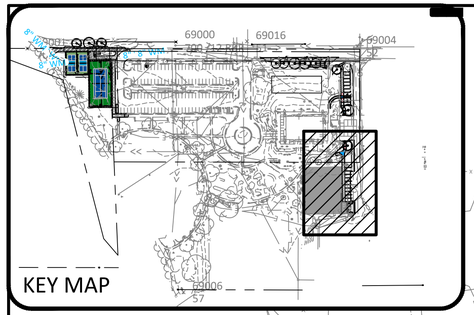
CITY OF WINDSOR HEIGHTS, IOWA

COLBY PARK PHASE 1

PLANTING PLAN

SHEET L.05



GRADING LIMITS

(M) LE

TRASH

NOTE: REFER TO B.02 FOR PLANT SCHEDULE

HATCH LEGEND:

- 6" PAVEMENT
- 5" SIDEWALK, SEE D SHEETS
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- TYPE 1 PERMANENT LAWN SEEDING, PER SUDAS

NOTE: REFER TO B-SERIES FOR ALL CONSTRUCTION DETAILS

HORZ. SCALE 0 10 20 FEET

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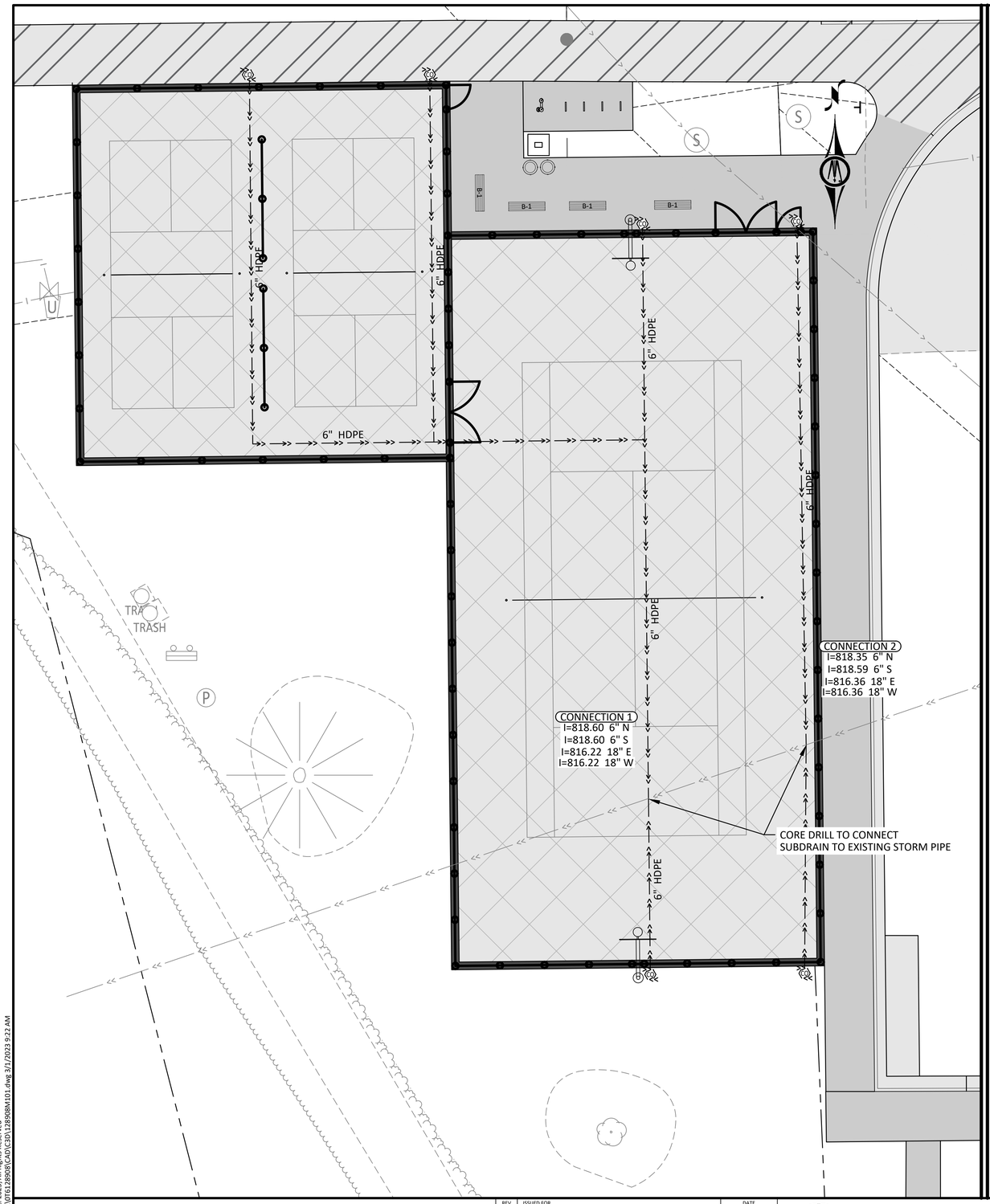
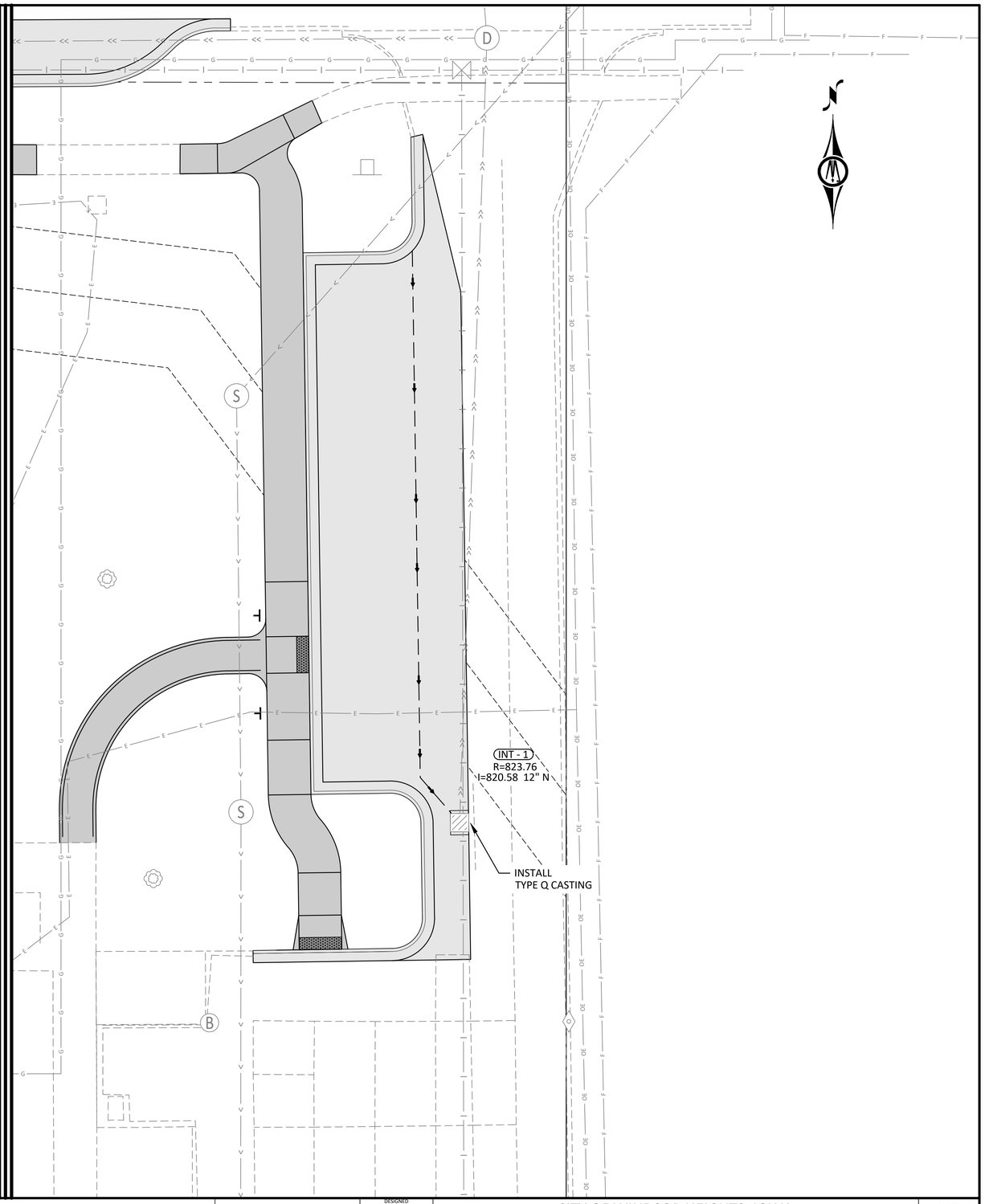
CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
PLANTING PLAN

SHEET L.06





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CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
STORM SEWER PLAN

SHEET M.01

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WATER MAIN CONSTRUCTION NOTES:

1. SHOP DRAWING REVIEW: DMWW TO REVIEW SHOP DRAWING SUBMITTALS FOR ALL MATERIAL RELATED TO WATER MAIN WORK AS SOON AS PRACTICABLE AFTER NOTICE TO PROCEED AND PRIOR TO PURCHASE. DMWW REQUIRES A MINIMUM OF 15 DAYS FOR REVIEW. CONTRACTOR TO SUBMIT SHOP DRAWINGS ELECTRONICALLY TO:
   CARLA SCHUMACHER
   CSCHUMACHER@DMWW.COM
   OFFICE: (515) 323-6227
2. INSPECTION: A DMWW'S ENGINEERING TECHNICIAN WILL BE ASSIGNED AS AN INSPECTOR FOR THE PROJECT TO INSPECT MATERIALS USED AND WORK DONE FOR CONFORMANCE TO PLANS AND SPECIFICATIONS.
3. PAYMENT: DMWW ENGINEERING TECHNICIAN WILL COORDINATE WITH CITY INSPECTOR FOR INSTALLED QUANTITIES FOR PAY APPLICATIONS.
4. CHANGE ORDERS: CONTRACTOR, DMWW INSPECTOR, AND CITY INSPECTOR TO AGREE ON COMPENSATION **PRIOR** TO COMMENCING ANY WORK THAT IS NOT COVERED BY THE CONTRACT FOR WATER MAIN ITEMS. **WORK PERFORMED PRIOR TO AN AGREEMENT WILL NOT BE CONSIDERED FOR COMPENSATION.**
5. START OF WORK NOTIFICATION: CONTRACTOR TO NOTIFY DMWW ENGINEERING TECHNICIAN 48 HOURS PRIOR TO START OF WATER MAIN RELATED CONSTRUCTION ACTIVITY FOR EACH STAGE OF CONSTRUCTION INVOLVING WATER MAIN INSTALLATION.
6. WATER SHUTDOWNS:
   - 6.1. CONTRACTOR TO NOTIFY CUSTOMERS A MINIMUM OF 24 HOURS IN ADVANCE OF WATER SHUTDOWNS. DMWW WILL PROVIDE DOOR TAGS TO CONTRACTOR. DMWW TO ASSIST CONTRACTOR IN IDENTIFICATION OF SERVICES REQUIRING CUSTOMER NOTIFICATIONS. NOTIFICATIONS ARE INCIDENTAL TO WATER SERVICE BID ITEM.
   - 6.2. CONTRACTOR REQUIRED TO NOTIFY BUSINESS CUSTOMERS A MINIMUM OF 72 HOURS IN ADVANCE OF WATER SHUTDOWNS. COORDINATE WITH DMWW PERSONNEL FOR SCHEDULING AND NOTIFICATIONS. NOTIFICATIONS ARE INCIDENTAL TO WATER SERVICE BID ITEM.
   - 6.3. WATER MAIN SHUTDOWNS MAY NEED TO BE COMPLETED OUTSIDE OF NORMAL WORKING HOURS (7 AM TO 7 PM) TO MINIMIZE IMPACT ON AFFECTED CUSTOMERS. NO ADDITIONAL COMPENSATION WILL BE PAID FOR WORK OUTSIDE NORMAL WORKING HOURS.
7. CONNECTION TO EXISTING WATER MAINS: CONTRACTOR TO NOTIFY DMWW ENGINEERING TECHNICIAN A MINIMUM OF 72 HOURS BEFORE BEGINNING WORK THAT REQUIRES ISOLATION OF A PORTION OF THE DISTRIBUTION SYSTEM.
8. VALVE AND HYDRANT OPERATION: ALL VALVES AND HYDRANTS TO BE OPERATED BY DMWW PERSONNEL ONLY. CONTRACTOR TO COORDINATE WITH ENGINEERING TECHNICIAN 72 HOURS IN ADVANCE OF REQUIRED OPERATION.
9. DISINFECTION:
   - 9.1. WATER MAIN RELOCATION - PRESSURE TEST AND CHLORINATE IN ACCORDANCE WITH SPECIAL PROVISIONS 026740 AND 026750. ALLOW A MINIMUM OF 3 DAYS FOR EACH SECTION TO BE TESTED. AS DESIGNED THERE ARE 2 SECTIONS.
   - 9.2. SHORT STRETCHES OF WATER MAIN AT CONNECTION POINTS MAY BE DISINFECTED BY SWAB METHOD ONLY WHEN THE DMWW ENGINEERING TECHNICIAN IS ON SITE.
10. TAPS ON WATER MAIN:
    - 10.1. CONTRACTOR TO SCHEDULE ALL TAPS WITH DMWW CUSTOMER SERVICE BY CALLING DMWW CUSTOMER SERVICE 24 HOURS PRIOR TO TAP AT 515-283-8700. TAPS INCLUDE:
      - 10.1.1. 1" CHLORINATION TAPS
      - 10.1.2. 1" WATER SERVICE TRANSFER TAPS
      - 10.1.3. TAPPING SLEEVE AND VALVES
    - 10.2. CONTRACTOR TO SCHEDULE ALL TAPPING SLEEVE AND VALVES WITH DMWW CUSTOMER SERVICE BY CALLING DMWW CUSTOMER SERVICE 72 HOURS PRIOR TO TAP AT 515-283-8700.
    - 10.3. CONTRACTOR SHALL HAVE EXCAVATION PREPARED AND PROPERLY SHORED IN ADVANCE OF SCHEDULED TAP IN ACCORDANCE WITH DMWW RULES AND REGULATIONS LOCATED AT WWW.DMWW.COM AND OSHA REQUIREMENTS.
11. WATER MAIN SPECIFIC QUESTIONS OR COMPLAINTS FROM CUSTOMERS ARE TO BE REFERRED TO DMWW'S ENGINEERING TECHNICIAN AND CITY INSPECTOR IMMEDIATELY.
12. TRENCHES WILL NOT BE LEFT OPEN WHEN CONTRACTOR IS NOT WORKING. PLACE WATERTIGHT BULKHEADS ON NEW MAIN.
13. TRAFFIC CONTROL FOR THE PROJECT WILL REQUIRE CONSIDERATION OF WATER MAIN CONSTRUCTION REQUIREMENTS, INCLUDING ABANDONMENT OF EXISTING WATER MAIN AND REMOVAL OF HYDRANTS AND VALVE BOXES THAT MAY BE IN THE WAY OF NEW PAVING OR STRUCTURES.

WATER SERVICE SCHEDULE

EXISTING SERVICE CONNECTION INFORMATION								NEW SERVICE CONNECTION INFORMATION (MAIN TO STOP BOX)								
SHEET	ADDRESS	STREET TAPPED	NAME	SERVICE SIZE	MATERIAL TYPE	SERVICE TYPE	CONNECTION TYPE	TAP LOCATION	STOP BOX LOCATION	MAIN SIZE	MAIN TYPE	MAIN DEPTH	TAP SIZE	SERVICE SIZE	MATERIAL TYPE	NOTES
M.08								STA: 2+36.50, 0.00' RT	STA: 2+36.50, 5.00' RT	8"	PVC	5'	1"	1"	PEX	

C900 PVC & CL52 DIP Restrained Joint (RJ) Table

Nominal Pipe Diameter (in)	Pipe Material**	Minimum Restrained Length (ft)*							
		Horizontal & Vertical (Up) Bend				Vertical (Down) Bend			Cap/Dead End
		11.25°	22.5°	45°	90°	11.25°	22.5°	45°	
16	PVC	7	14	29	70	19	39	80	147
12	PVC	6	11	23	55	15	30	62	113
8	PVC	4	8	16	39	10	21	44	80
16	DIP	7	14	28	70	17	35	73	178
8	DIP	4	8	16	38	10	19	40	97

*Use restrained joints on all pipe joints that fall within the lengths above on both sides of the fitting indicated.

**Ductile Iron Pipe (DIP) is assumed to be polyethlene encased

***This table is based on the following assumptions:

	Soil Type:	ML
	Factor of Safety:	2
	Min. Bury Depth:	5
	Test Pressure:	150
	Trench Condition:	Type 3

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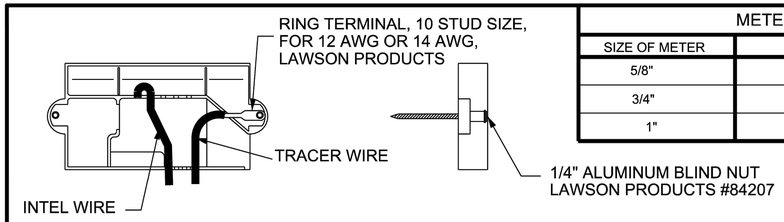
CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
WATERMAIN GENERAL NOTES

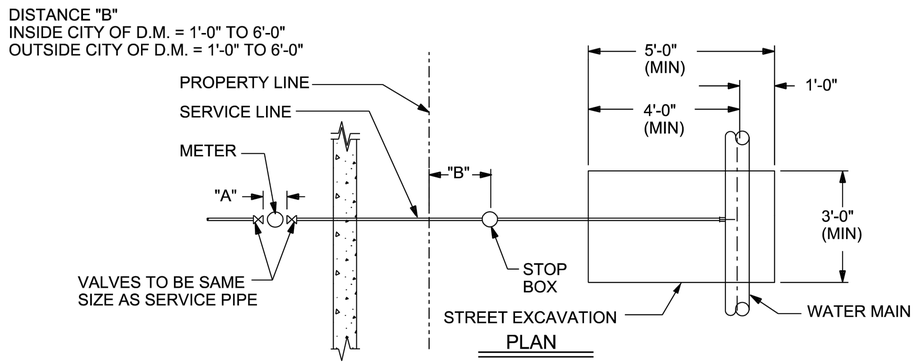
SHEET M.02

METER SPACING	
SIZE OF METER	"A" - FACE TO FACE OF VALVES
5/8"	11-3/4"
3/4"	13-3/4"
1"	15-3/4"

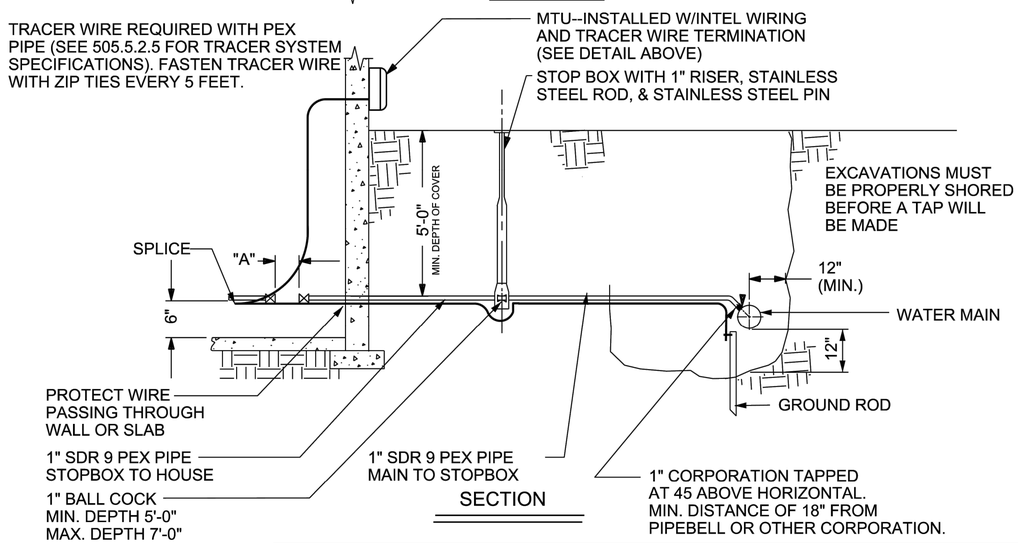


VIEW OF BACK SIDE VIEW

MTU UNIT DETAIL



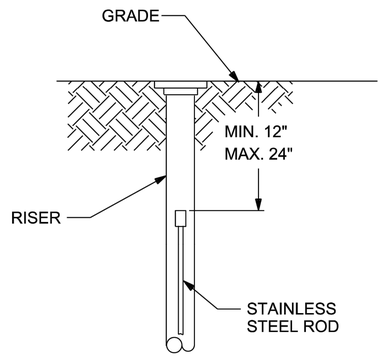
PLAN



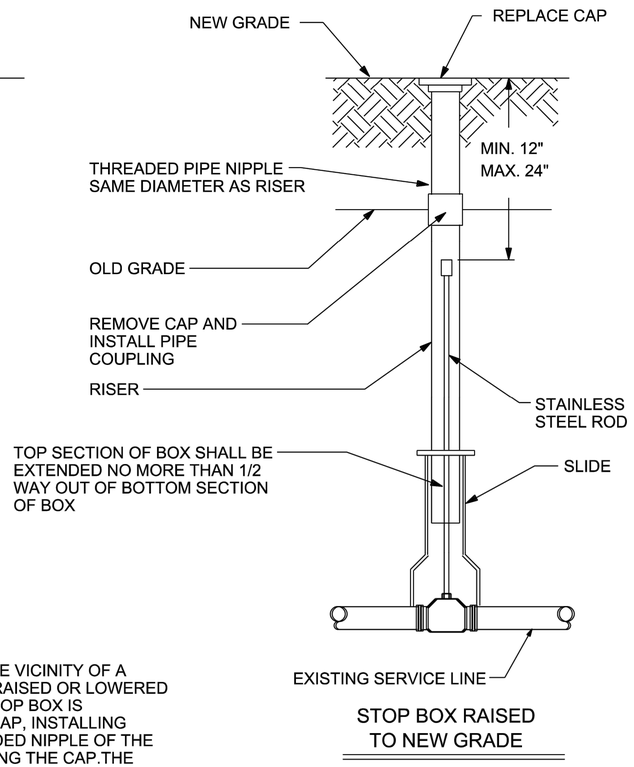
SECTION

Des Moines Water Works — Water You Can Trust for Life ENGINEERING DEPARTMENT Des Moines, Iowa	DETAIL OF 1" PEX SERVICE INSTALLATION	
	SCALE: NONE	DATE: 4-13-2007
	DRAWN BY: SSD	APPROVED BY: TPC
	REVISED: 10/05/2022 DLH	

512-1B
FIGURE 1B



NORMAL INSTALLATION



STOP BOX RAISED TO NEW GRADE

WHEN THE GRADE IS CHANGED IN THE VICINITY OF A STOP BOX, THE STOP BOX MUST BE RAISED OR LOWERED TO THE NEW GRADE. RAISING THE STOP BOX IS ACCOMPLISHED BY REMOVING THE CAP, INSTALLING A 1" PIPE COUPLING AND A 1" THREADED NIPPLE OF THE APPROPRIATE LENGTH AND REPLACING THE CAP.THE RISER MUST BE INTERGAL AND CONTINUOUS. TO LOWER THE STOP BOX, IT WILL BE NECESSARY TO CUT AND RETHREAD THE RISER PIPE AT THE NEW GRADE AND REPLACE THE CAP. ROD MUST BE LOWERED IN PROPER PROPORTION TO RISER PIPE.

Des Moines Water Works — Water You Can Trust for Life ENGINEERING DEPARTMENT Des Moines, Iowa	ADJUSTING STOP BOX TO NEW GRADE (ARCH PATTERN BOX)	
	SCALE: NONE	DATE: 5-10-96
	DRAWN BY: DLH	APPROVED BY: TPC
	REVISED: 08/11/2000 SLH	

512-14
FIGURE 14

REV	ISSUED FOR	DATE
0	CONSTRUCTION SET	03-07-2023

BOLTON & MENK
430 E GRAND AVE, SUITE 101
DES MOINES, IOWA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

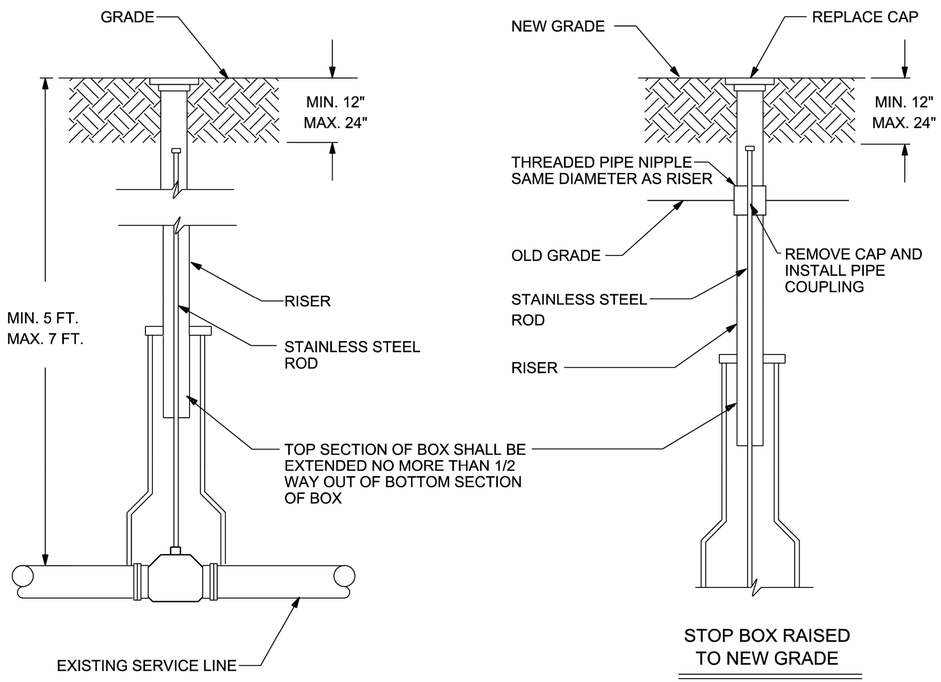
WINDSOR HEIGHTS the heart of it all

DESIGNED	NW/NRJ/TJN
SEALED	JLE
CHECKED	CB
CLIENT PROJ. NO.	0T6.128908

CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
WATERMAIN DETAILS

SHEET M.03

H:\WINDSORH_CI_IA\0T6\128908\CAD\C3D\128908M301.dwg 2/28/2023 12:45 PM



NORMAL
INSTALLATION

STOP BOX RAISED
TO NEW GRADE

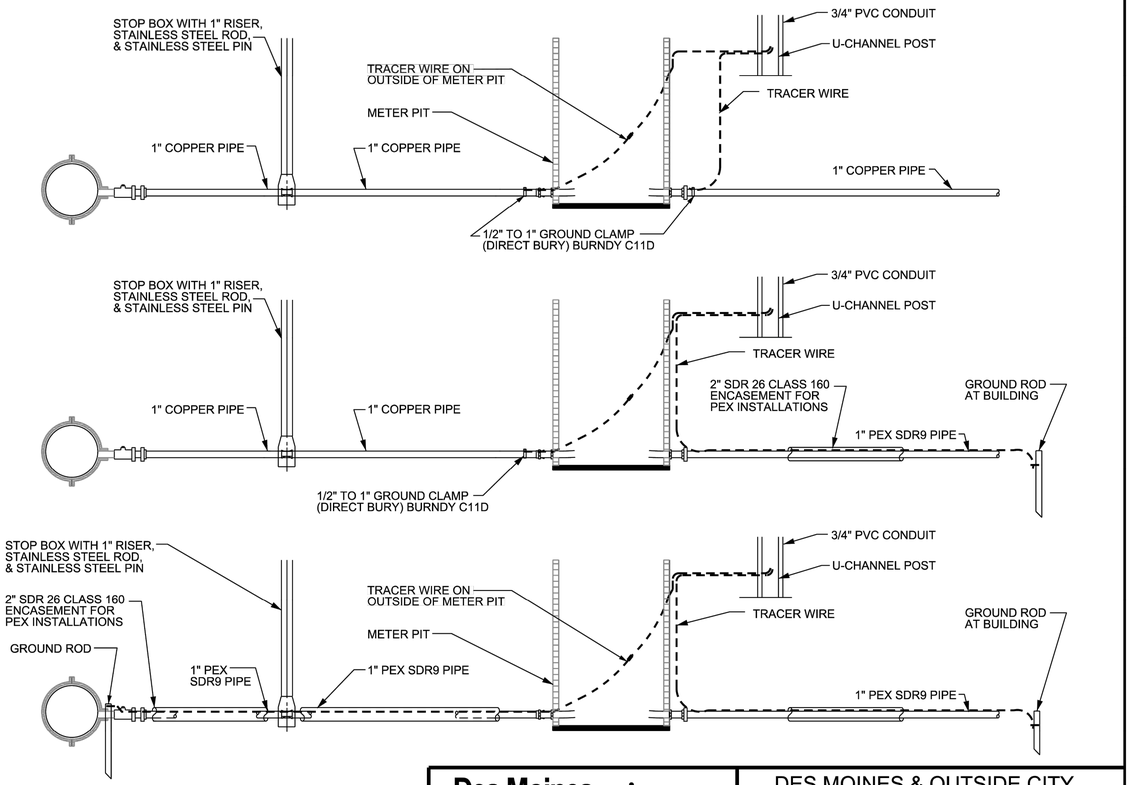
WHEN THE GRADE IS CHANGED IN THE VICINITY OF A STOP BOX, THE STOP BOX MUST BE RAISED OR LOWERED TO THE NEW GRADE. RAISING THE STOP BOX IS ACCOMPLISHED BY REMOVING THE CAP, INSTALLING A 1-1/4" PIPE COUPLING AND A 1-1/4" THREADED NIPPLE OF THE APPROPRIATE LENGTH AND REPLACING THE CAP.THE RISER MUST BE INTERGAL AND CONTINUOUS. TO LOWER THE STOP BOX, IT WILL BE NECESSARY TO CUT AND RETHREAD THE RISER PIPE AT THE NEW GRADE AND REPLACE THE CAP.

Des Moines Water Works
Water You Can Trust for Life
ENGINEERING DEPARTMENT
Des Moines, Iowa

ADJUSTING STOP BOX TO NEW GRADE
(MINNEAPOLIS STYLE BOX)

SCALE: NONE	DATE: 5-10-96
DRAWN BY: DLH	APPROVED BY: TPC
REVISED: 04/29/2013 JLH	

512-15
FIGURE 15



NOTES:
1. BRING ADDITIONAL 5 FEET OF TRACER WIRE ABOVE TOP OF PIT
2. TRACER WIRE REQUIRED
WITH PEX PIPE (SEE 505.5.2.5 FOR TRACER SYSTEM SPECIFICATIONS).
FASTEN TRACER WIRE WITH ZIP TIES EVERY 5 FEET.

Des Moines Water Works
Water You Can Trust for Life
ENGINEERING DEPARTMENT
Des Moines, Iowa

DES MOINES & OUTSIDE CITY
1"-2" WATER SERVICE W/ METER PIT
TRACER WIRE DETAIL

SCALE: NONE	DATE: 6-29-2007
DRAWN BY: DLH	APPROVED BY: TPC
REVISED: 10/05/2022 DLH	

512-16B
FIGURE 16B

REV	ISSUED FOR	DATE
0	CONSTRUCTION SET	03-07-2023

BOLTON & MENK

430 E GRAND AVE, SUITE 101
DES MOINES, IOWA 50309
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Email: DesMoines@bolton-menk.com
www.bolton-menk.com

WINDSOR HEIGHTS
the heart of it all

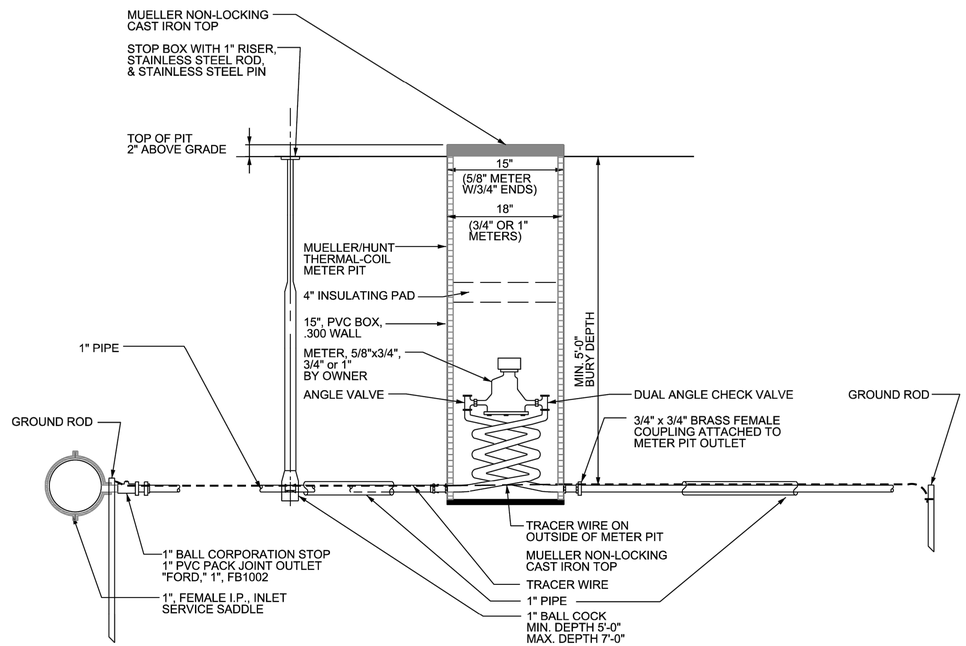
DESIGNED	NW/NRJ/TJN
SEALED	JLE
CHECKED	CB
CLIENT PROJ. NO.	0T6.128908

CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
WATERMAIN DETAILS

SHEET
M.04

NOTE:
METER PITS SHALL BE
66" IN LENGTH (MIN.)

NOTE:
WHEN SPECIFIED THE SETTER SHALL BE
PROVIDED WITH A TANDEM SETTER WITH
A 3/4" WATTS REGULATOR (5M3-Z6) FOLLOWING
METER.

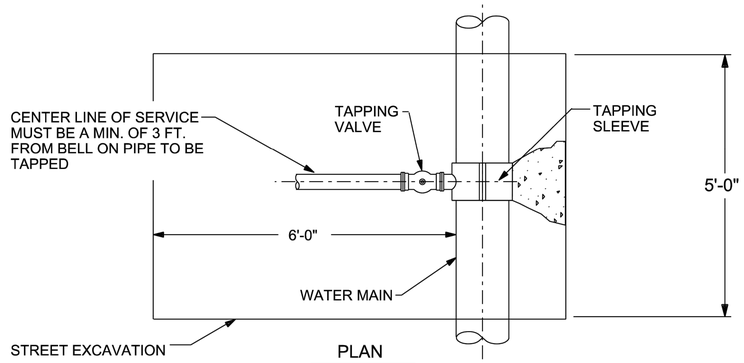


TRACER WIRE REQUIRED
WITH PEX PIPE (SEE 505.5.2.5
FOR TRACER SYSTEM SPECIFICATIONS).
FASTEN TRACER WIRE WITH ZIP
TIES EVERY 5 FEET.

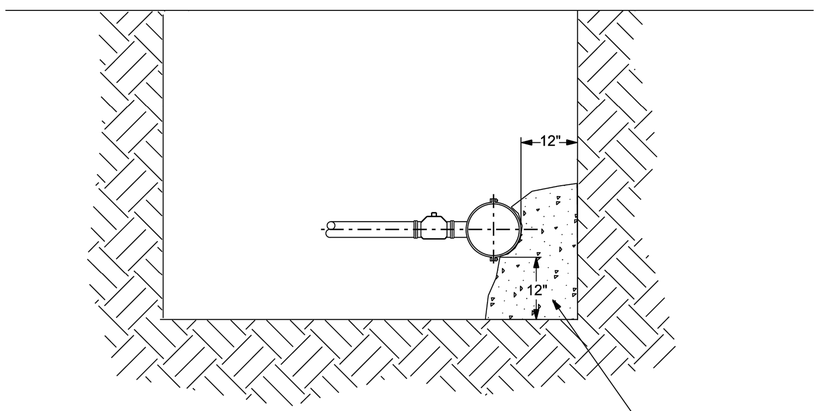
Des Moines Water Works
Water You Can Trust for Life
ENGINEERING DEPARTMENT
Des Moines, Iowa

INSIDE CITY OF DES MOINES WATER SERVICE AND METER PIT DETAIL	
SCALE: NONE	DATE: 10/02/2019
DRAWN BY: JLH	APPROVED BY: TPC
REVISED: 10/06/2022 DLH	

512-16C
FIGURE 16C



PLAN



SECTION

NOTES:

1. IF 2 TAPS ARE TO BE MADE, A MIN. OF 3 FT. BETWEEN SERVICES (□ TO □) SHOULD BE MAINTAINED AND THE WIDTH OF THE HOLE INCREASED TO 8 FT. IF BOTH ARE TO BE MADE IN SAME HOLE.
2. EXCAVATIONS OVER 4'-11" DEEP MUST BE SHORED BEFORE A TAP WILL BE MADE. EXCAVATION DIMENSIONS ARE FROM INSIDE FACE OF SHORING.

Des Moines Water Works
Water You Can Trust for Life
ENGINEERING DEPARTMENT
Des Moines, Iowa

EXCAVATION DETAIL FOR TAPPING SLEEVE	
SCALE: NONE	DATE: 5-10-1996
DRAWN BY: DLH	APPROVED BY: TPC
REVISED: 04/29/2013 JLH	

512-22
FIGURE 22

REV	ISSUED FOR	DATE
0	CONSTRUCTION SET	03-07-2023

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DES MOINES, IOWA 50309
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WINDSOR HEIGHTS
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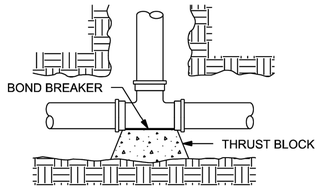
DESIGNED	NW/NRJ/TJN
SEALED	JLE
CHECKED	CB
CLIENT PROJ. NO.	0T6.128908

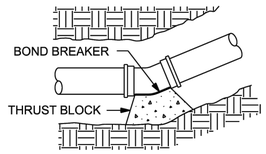
CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
WATERMAIN DETAILS

SHEET M.05

H:\WINDSORH_CI_IA\0T6128908\CAD\C3D\128908M201.dwg 2/28/2023 12:45 PM

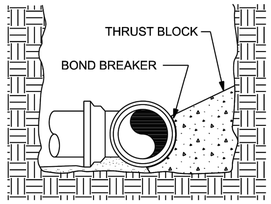


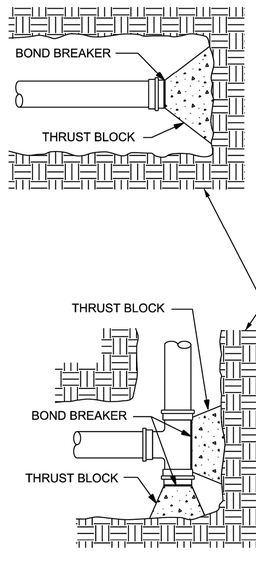
MINIMUM BEARING SURFACE (IN SQ. FT.)					
SIZE OF PIPE	B E N D S				TEE OR DEAD END
	11 1/4°	22 1/2°	45°	90°	
6"	1.00	1.25	2.25	4.50	3.00
8"	1.00	2.00	4.00	7.90	5.25
12"	2.00	4.25	8.25	18.00	11.00
16"	8.00	15.25	28.00	48.00	35.00
20"	8.50	16.50	32.00	57.00	40.00
24"	9.00	18.00	35.00	65.00	45.00

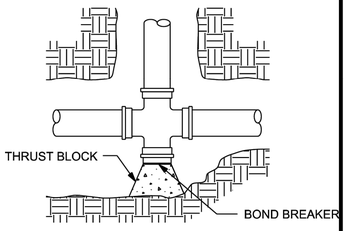


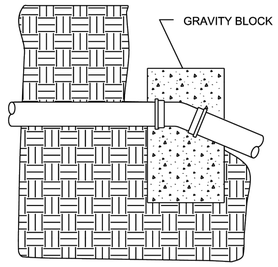
Note:

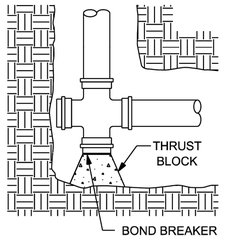
Restrained joints may be used in lieu of blocking with prior approval from DMWW.









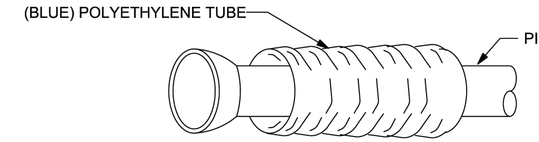


Des Moines Water Works
Water You Can Trust for Life
ENGINEERING DEPARTMENT
Des Moines, Iowa

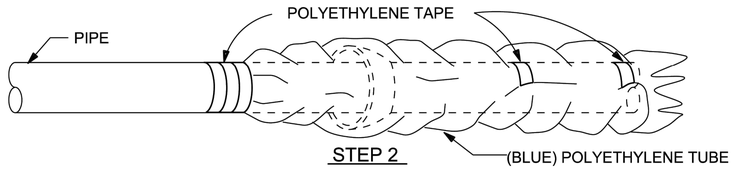
CONCRETE THRUST BLOCK STANDARD

SCALE: NONE | DATE: 9-25-1992
DRAWN BY: DLH | APPROVED BY: TPC
REVISED: 04/29/2013 JLH

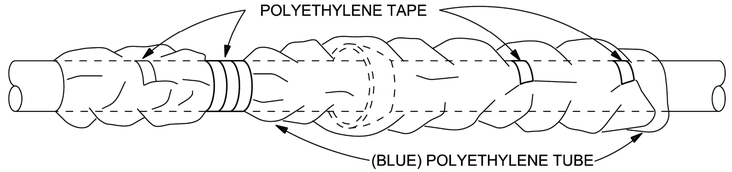
512-23
FIGURE 23



STEP 1



STEP 2



STEP 3

FIELD INSTALLATION - POLYETHYLENE WRAP

STEP 1 - PLACE TUBE OF BLUE POLYETHYLENE MATERIAL ON PIPE PRIOR TO LOWERING IT INTO THE TRENCH.

STEP 2 - PULL THE TUBE OVER THE LENGTH OF PIPE. TAPE TUBE TO PIPE AT JOINT. FOLD MATERIAL AROUND THE ADJACENT SPIGOT END AND WRAP WITH TAPE TO HOLD THE PLASTIC TUBE IN PLACE.

STEP 3 - OVERLAP FIRST TUBE WITH ADJACENT TUBE AND AND SECURE WITH PLASTIC ADHESIVE TAPE. THE BLUE POLYETHYLENE TUBE COVERING THE PIPE SHALL BE LOOSE. EXCESS MATERIAL SHALL BE NEATLY DRAWN UP AROUND THE PIPE BARREL, FOLDED ON TOP OF AND TAPED IN PLACE.

NOTE: IRON PIPE FITTINGS, INCLUDING VALVES AND HYDRANTS SHALL BE WRAPPED WITH TWO LAYERS OF BLUE POLYETHYLENE MATERIAL. THE WRAPPING SHALL EXTEND AT LEAST 1' BEYOND THE FITTING JOINTS ONTO THE ADJOINING PIPE AND SHALL BE FASTEN TO THE PIPE WITH PLASTIC TAPE. TAPE SHALL BE USED AS NEEDED TO HOLD WRAP IN PLACE. EITHER POLYETHYLENE SHEETS OR SLIT TUBING MAY BE USED.

Des Moines Water Works
Water You Can Trust for Life
ENGINEERING DEPARTMENT
Des Moines, Iowa

POLYETHYLENE WRAP DETAIL

SCALE: NONE | DATE: 5-10-1995
DRAWN BY: DLH | APPROVED BY: TPC
REVISED: 04/29/2013 JLH

512-25
FIGURE 25

REV	ISSUED FOR	DATE
0	CONSTRUCTION SET	03-07-2023

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DES MOINES, IOWA 50309
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www.bolton-menk.com

WINDSOR HEIGHTS the heart of it all

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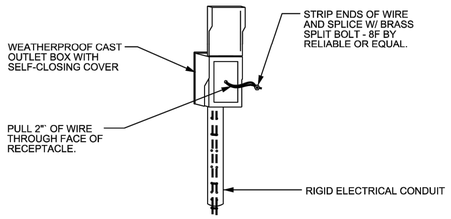
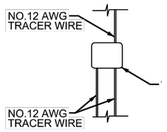
SEALED	JLE
CHECKED	CB
CLIENT PROJ. NO.	0T6.128908

CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
WATERMAIN DETAILS

SHEET M.06

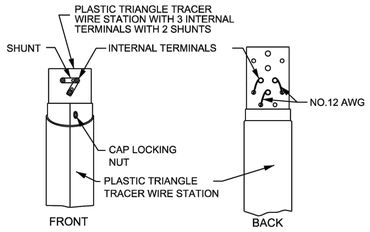


TRACER WIRE RECEPTACLE DETAIL
ON BUILDING
Not to Scale

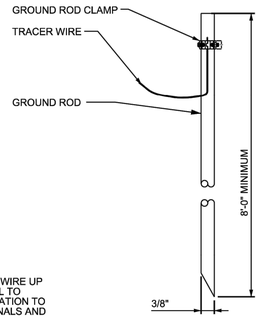


*SPLICES PERMITTED ONLY WITH DMWW APPROVAL

TRACER WIRE SPLICE DETAIL
Not to Scale

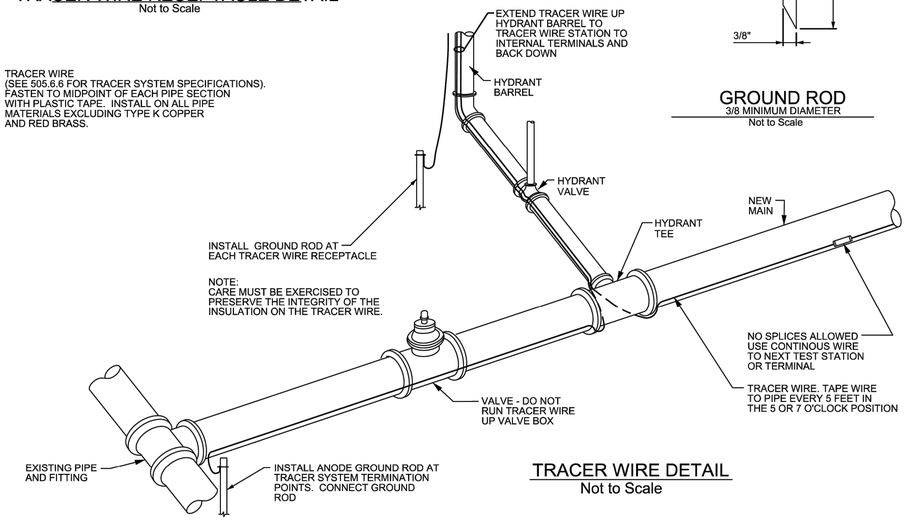


TRACER WIRE RECEPTACLE DETAIL
Not to Scale



GROUND ROD
3/8 MINIMUM DIAMETER
Not to Scale

TRACER WIRE
(SEE 505.6.6 FOR TRACER SYSTEM SPECIFICATIONS).
FASTEN TO MIDPOINT OF EACH PIPE SECTION WITH PLASTIC TAPE. INSTALL ON ALL PIPE MATERIALS EXCLUDING TYPE K COPPER AND RED BRASS.



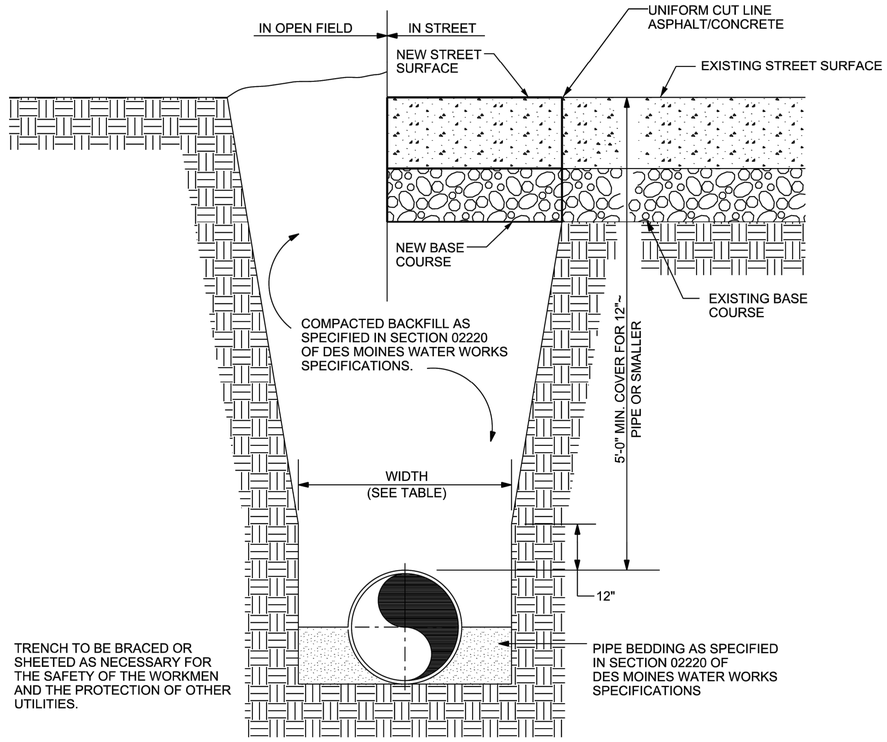
TRACER WIRE DETAIL
Not to Scale

TRACER WIRE MAY BE INSTALLED IN PLASTIC CONDUIT FOR ADDITIONAL PROTECTION FROM POTENTIAL DAMAGE, BUT IT IS NOT REQUIRED.

Des Moines Water Works
Water You Can Trust for Life
ENGINEERING DEPARTMENT
Des Moines, Iowa

TRACER WIRE DETAIL	
SCALE: NONE	DATE: 5-10-1996
DRAWN BY: DLH	APPROVED BY: TPC
REVISED: 10/05/2022 DLH	

512-26
FIGURE 26



PIPE DIAMETER	MINIMUM WIDTH	MAXIMUM WIDTH
4"	1'-4"	2'-4"
6"	1'-6"	2'-6"
8"	1'-8"	2'-8"
12"	2'-0"	3'-0"
16"	2'-4"	3'-4"
20"	2'-8"	3'-8"

TYPICAL TRENCH SECTION
Not to Scale

Des Moines Water Works
Water You Can Trust for Life
ENGINEERING DEPARTMENT
Des Moines, Iowa

TYPICAL TRENCH SECTION	
SCALE: NONE	DATE: 9-22-1992
DRAWN BY: DLH	APPROVED BY: TPC
REVISED: 04/29/2013 JLH	

512-27
FIGURE 27

REV	ISSUED FOR	DATE
0	CONSTRUCTION SET	03-07-2023

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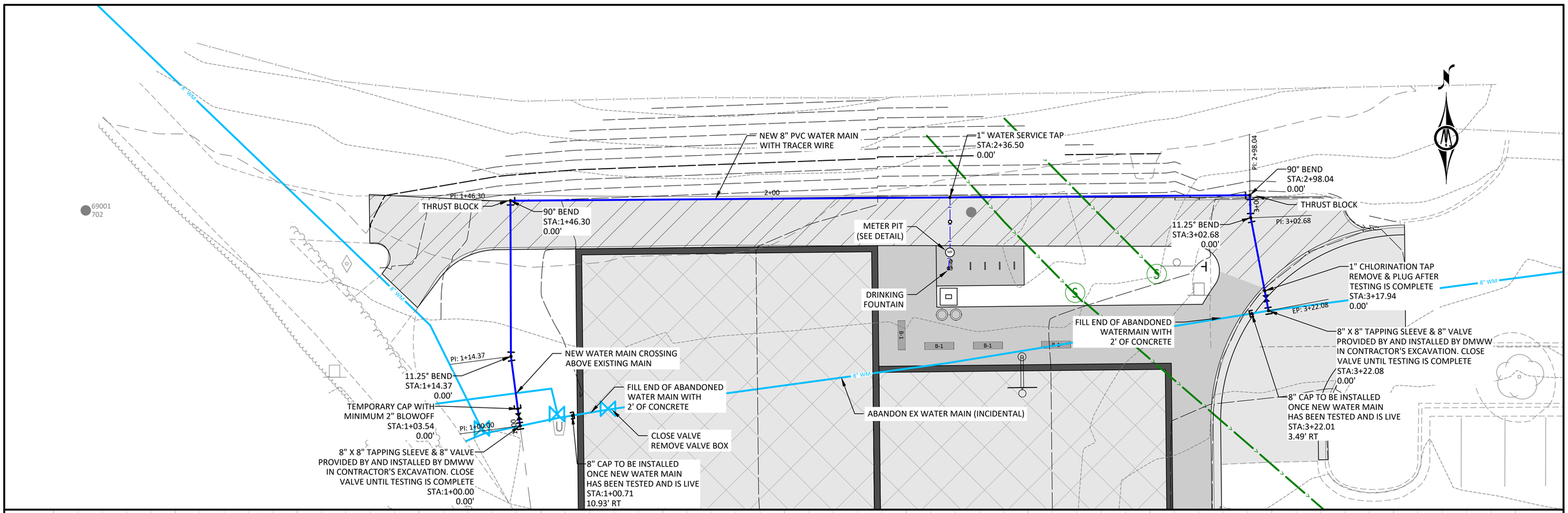
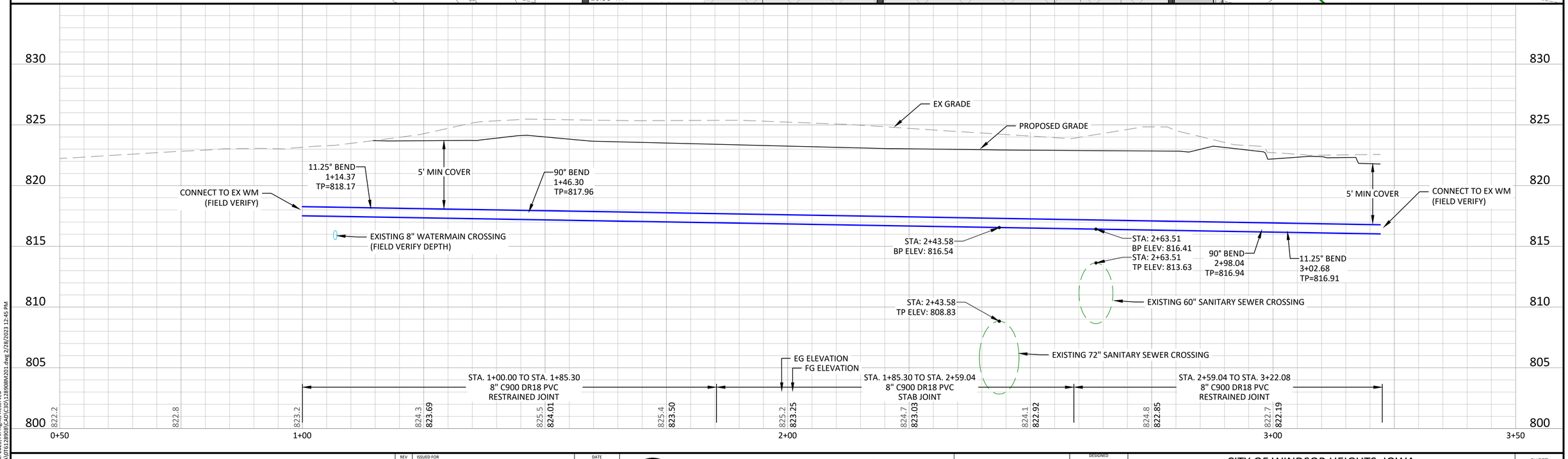
430 E GRAND AVE, SUITE 101
DES MOINES, IOWA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
www.bolton-menk.com

WINDSOR HEIGHTS
the heart of it all

DESIGNED	SHEET
NW/NRJ/TJN	M.07
SEALED: JLE	
CHECKED: CB	
CLIENT PROJ. NO.: 0T6.128908	

CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
WATERMAIN DETAILS





HORZ. 0 10 20 SCALE FEET
VERT. 0 4 8 SCALE FEET

REV	ISSUED FOR	DATE
0	CONSTRUCTION SET	03-07-2023

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WINDSOR HEIGHTS the heart of it all

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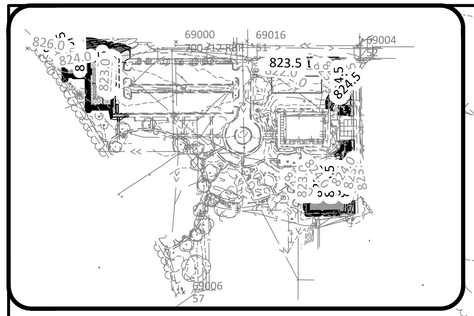
SEALED JLE
CHECKED CB
CLIENT PROJ. NO. 0T6.128908

CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
WATERMAIN PLAN AND PROFILE

SHEET M.08



HORZ. SCALE 0 10 20 FEET

REV	ISSUED FOR	DATE
0	CONSTRUCTION SET	03-07-2023

BOLTON & MENK

WINDSOR HEIGHTS the heart of it all

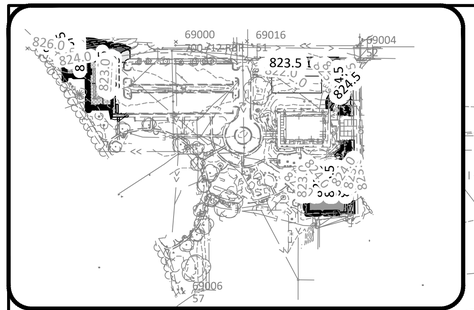
DESIGNED	NW/NRJ/TJN
SCALED	JLE
CHECKED	CB
CLIENT PROJ. NO.	0T6.128908

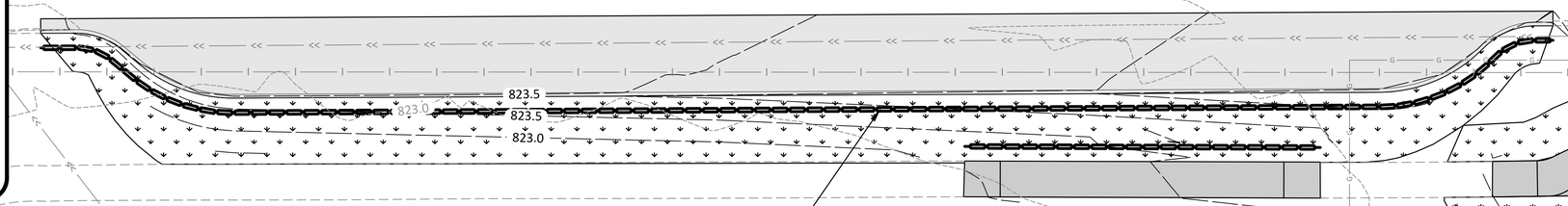
CITY OF WINDSOR HEIGHTS, IOWA

COLBY PARK PHASE 1

EROSION CONTROL

SHEET R.01





FILTER SOCK

SOD

HORZ. SCALE 0 10 20 FEET

REV	ISSUED FOR	DATE
0	CONSTRUCTION SET	03-07-2023

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WINDSOR HEIGHTS the heart of it all

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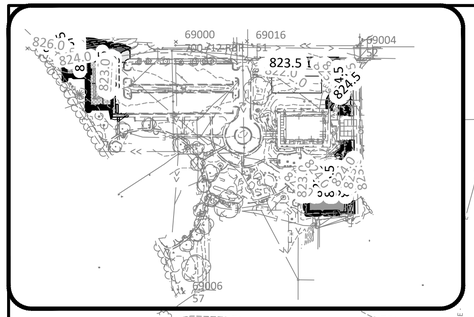
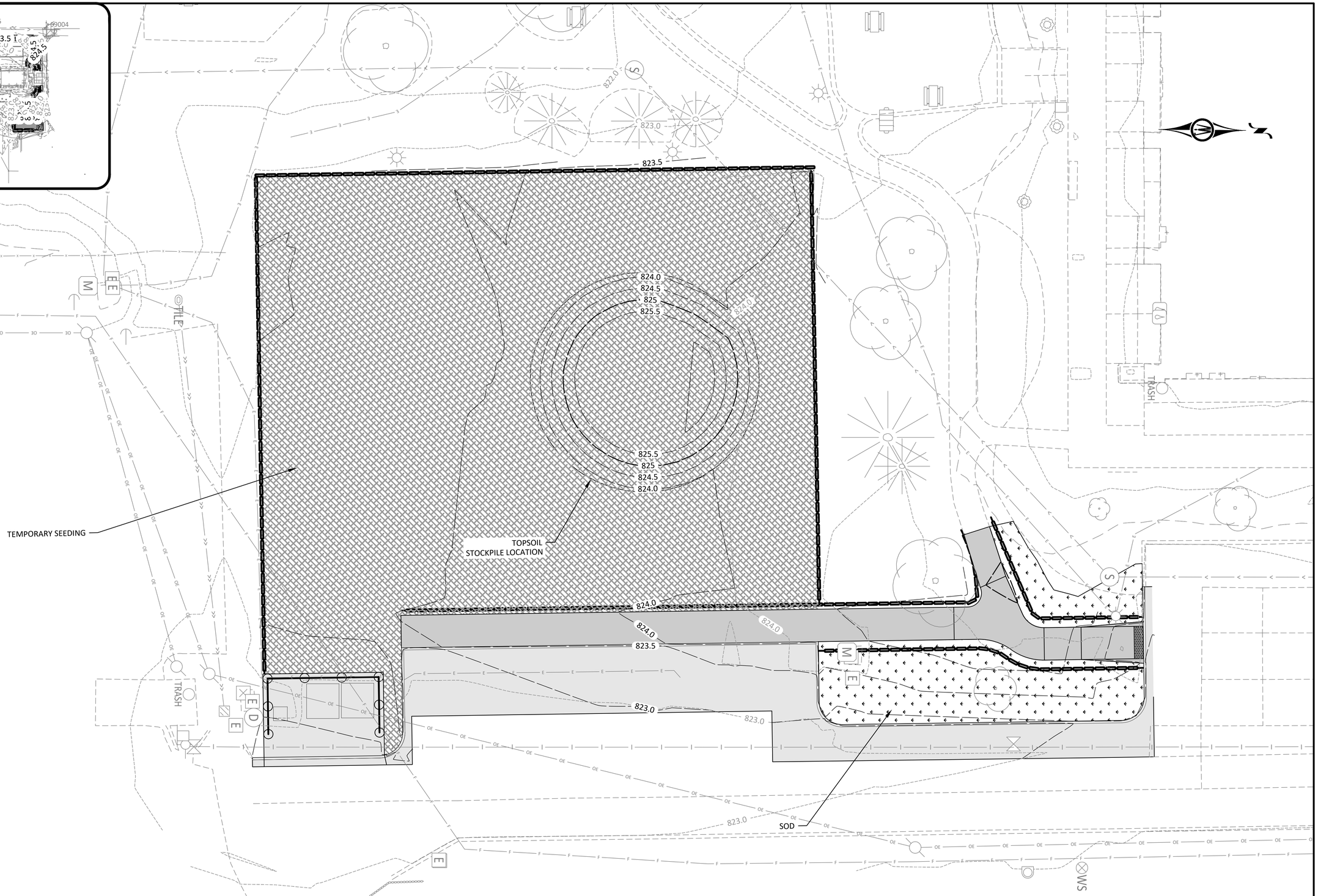
SEALED	JLE
CHECKED	CB
CLIENT PROJ. NO.	0T6.128908

CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
EROSION CONTROL

SHEET R.02





HORZ. 0 10 20 SCALE FEET

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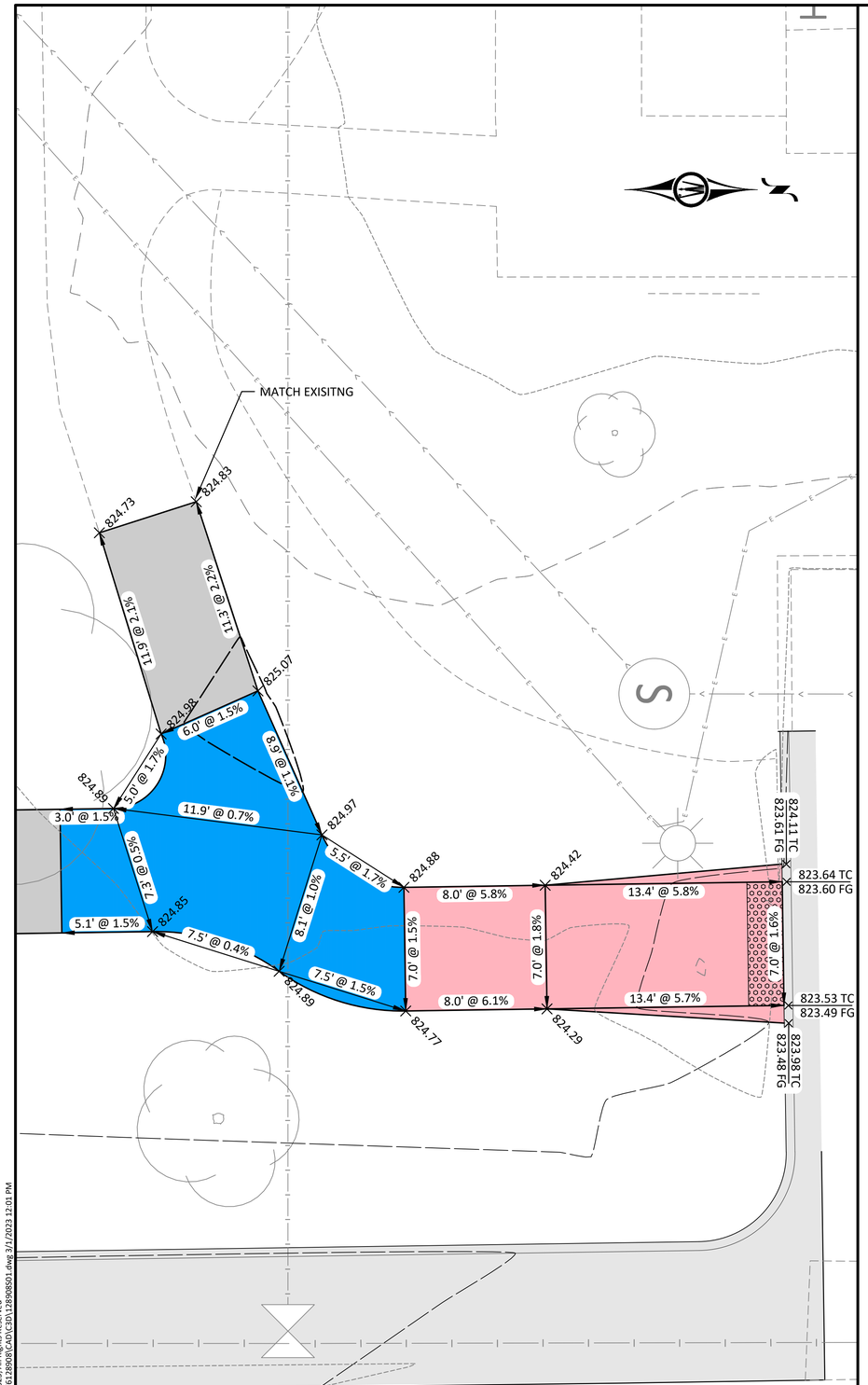
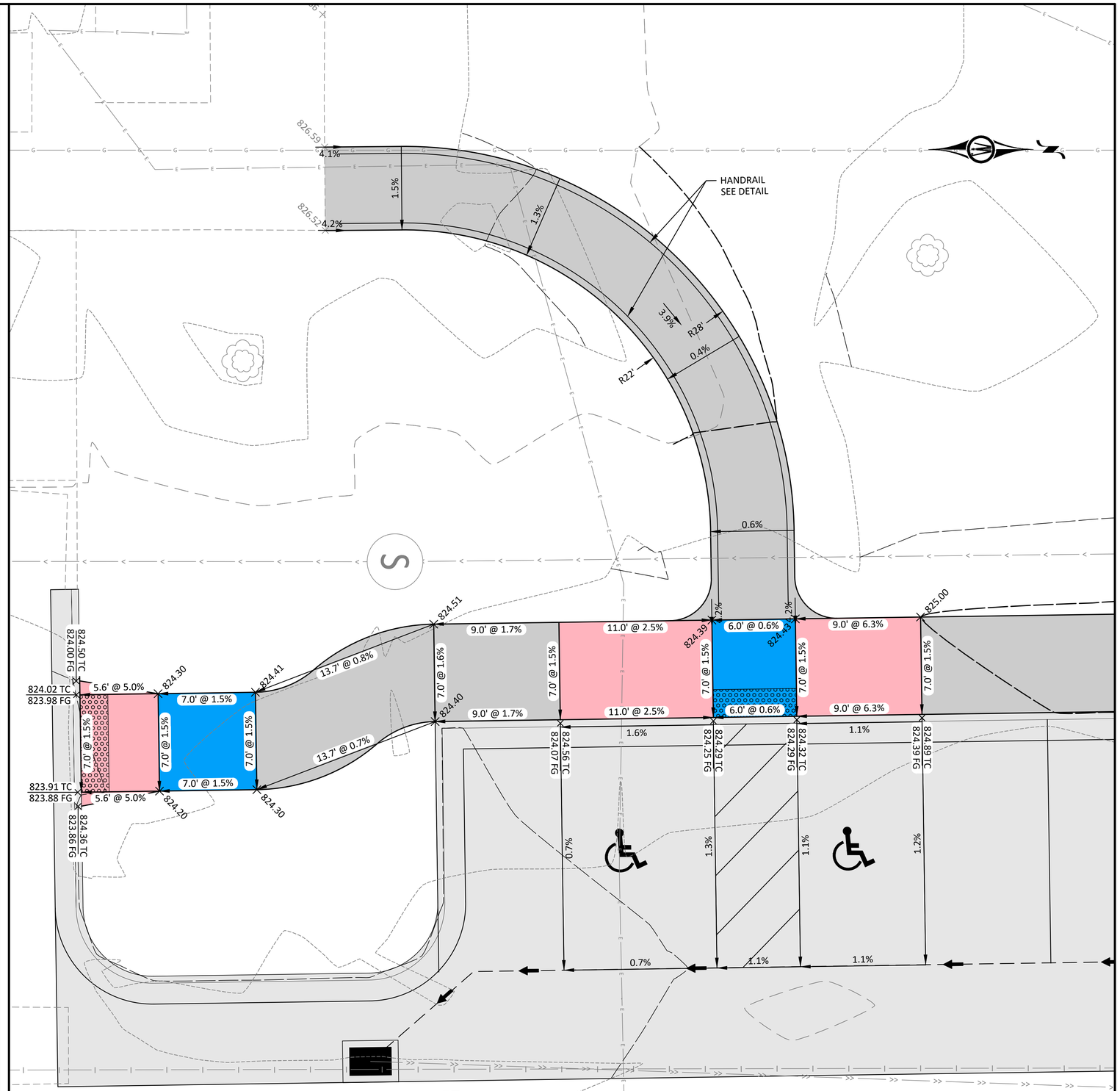
CITY OF WINDSOR HEIGHTS, IOWA

COLBY PARK PHASE 1

EROSION CONTROL

SHEET R.03





HORZ. 0 4 8
SCALE FEET

REV	ISSUED FOR	DATE
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DES MOINES, IOWA 50309
Phone: (515) 259-9190
Email: DesMoines@bolton-menk.com
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WINDSOR HEIGHTS
city where it all

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CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
ADA RAMPS

SHEET S.01

ONE LINE/SCHEDULE GENERAL NOTES

SYMBOL	DESCRIPTION
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
[LSIG]	ELECTRONIC TRIP CIRCUIT BREAKER (LONG TIME, SHORT TIME, INST, GROUND FAULT)
[LSI]	ELECTRONIC TRIP CIRCUIT BREAKER (LONG TIME, SHORT TIME, INST)
[LSIA]	ELECTRONIC TRIP CIRCUIT BREAKER (LONG TIME, SHORT TIME, INST, GROUND FAULT ALARM)
HL	HANDLE LOCK
SD	DENOTES SERVICE DISCONNECT
(ST)	120V SHUNT TRIP OPERATOR
(GF)	GROUND FAULT CIRCUIT INTERRUPTER
(E)	EXISTING BREAKER IN EXISTING PANEL
(N)	NEW BREAKER IN EXISTING PANEL
(NE)	NEW BREAKER, EXTEND EXISTING LOAD

GENERAL ELECTRICAL SYMBOLS

	CONNECTION TO MECHANICAL EQUIPMENT
J	ELECTRICAL CONNCTION TO MISC EQUIPMENT
EPO #	BOILER EMERGENCY STOP PUSH BUTTON. ONE NORMALLY OPEN AND ONE NORMALLY CLOSED CONTACT. RED MUSHROOM HEAD WITH ALARMED, CLEAR, HINGED COVER; PROVIDE WITH ENGRAVED LABEL, "EMERGENCY BOILER SHUT-DOWN"
DPM	DIGITAL POWER METER, LCD DISPLAY, MONITORING OF VOLTAGE, CURRENT, POWER, PF, FREQUENCY, MIN/MAX AND AVERAGE VALUES, AND ENERGY
	PANELBOARD - SEE SCHEDULES FOR MORE INFORMATION
T, - UTIL	TRANSFORMER - SEE SCHEDULES FOR MORE INFORMATION
	SWITCHBOARD - SEE SCHEDULES FOR MORE INFORMATION
T	TRANSFORMER - SEE SCHEDULES FOR MORE INFORMATION
DS-XXX A/B/C	DISCONNECT SWITCH, HEAVY DUTY, SIZE INDICATED ON PLANS (A/B/C) WHERE A = RATING IN AMPS, B = NUMBER OF POLES, C = NEMA RATING (E.G. 1 = NEMA 1), XXX = NAME OF LOAD SERVED
M	POWER METER

GENERAL ELECTRICAL SYMBOLS

C.M.	CONSTRUCTION MANAGER
M.C.	MECHANICAL CONTRACTOR
P.C.	PLUMBING/PIPING CONTRACTOR
E.C.	ELECTRICAL CONTRACTOR
A.T.C.	AUTOMATIC TEMPERATURE CONTROLS CONTRACTOR
G.C.	GENERAL CONTRACTOR
F.P.C.	FIRE PROTECTION CONTRACTOR
K.E.C.	KITCHEN EQUIPMENT CONTRACTOR
EQUIPMENT	SCHEDULED EQUIPMENT (UNDERLINED)
EQUIPMENT	NON-SCHEDULED EQUIPMENT
X_EQUIPMENT	EXISTING EQUIPMENT (X_ PREFIX)
A	6" ABOVE COUNTER OR BACKSPLASH TO CENTERLINE OF DEVICE
M	INSTALL DEVICE IN MILLWORK
XX	LOCATION-SPECIFIC MOUNTING HEIGHT ABOVE FINISHED FLOOR TO CENTERLINE OF DEVICE
H	INSTALL DEVICE HORIZONTALLY
B	BLACK DEVICE COLOR WITH BLACK UNBREAKABLE THERMOPLASTIC COVER PLATE
/	USED BETWEEN TWO OR MORE SUBSCRIPTS
# #	SECTION VIEW, TOP REPRESENTS DETAIL NUMBER, BOTTOM REPRESENTS SHEET NUMBER

GENERAL LIGHTING SYMBOLS

SYMBOL	DESCRIPTION
	DOUBLE FACED EXIT SIGN
	SINGLE FACED EXIT SIGN
	RECESSED ARCHITECTURAL TROFFER
	RECESSED DOWNLIGHT
	EMERGENCY FIXTURE
	POLE MOUNTED SITE FIXTURE
	POLE MOUNTED SITE FIXTURE
	INDUSTRIAL FIXTURE
	SURFACE OR PENDANT LINEAR FIXTURE
	SURFACE OR PENDANT CIRCULAR FIXTURE
	WALL MOUNTED FIXTURE
	WALL SCONCE

GENERAL SWITCH SYMBOLS

SYMBOL	DESCRIPTION
$	SWITCH;REFER TO SUBSCRIPT SCHEDULE FOR MORE INFORMATION.
D#	REFER TO SUBSCRIPT SCHEDULE FOR MORE INFORMATION
I#	REFER TO SUBSCRIPT SCHEDULE FOR MORE INFORMATION
U#	REFER TO SUBSCRIPT SCHEDULE FOR MORE INFORMATION

GENERAL POWER SYMBOLS

SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE, NEMA 5-20R, EMERGENCY POWER
	DUPLEX RECEPTACLE, REFER TO SUBSCRIPT SCHEDULE FOR MORE INFORMATION.
CR	CORD REEL
CD	CORD DROP
	DOUBLE DUPLEX RECEPTACLE, NEMA 5-20R
	SIMPLEX RECEPTACLE, NEMA 5-20R
	SPECIAL RECEPTACLE
	RECESSED FLOOR BOX OR POKE-THRU
	DOUBLE DUPLEX RECEPTACLE, NEMA 5-20R, EMERGENCY POWER

GENERAL FIRE ALARM SYMBOLS

SYMBOL	DESCRIPTION
FAP	FIRE ALARM CONTROL PANEL
NEP	NOTIFICATION APPLIANCE CIRCUIT EXTENDER PANEL
FAA	FIRE ALARM REMOTE ANNUNCIATOR PANEL
PIV	FIRE PROTECTION POST INDICATOR VALVE AND TAMPER SWITCH
PS	FIRE PROTECTION AIR PRESSURE SWITCH
TS	FIRE PROTECTION VALVE TAMPER SWITCH
FS	FIRE PROTECTION WATER FLOW SWITCH
SD BR	BEAM SMOKE REFLECTOR
SD B#	LINEAR BEAM SMOKE DETECTOR
SD SD	LINEAR BEAM SMOKE DETECTOR
DSD	DUCT SMOKE DETECTOR
RI	DUCT SMOKE DETECTOR REMOTE INDICATOR STATION
H	HEAT INDICATOR ADDRESSABLE
J LHD	LINEAR HEAT DETECTION CABLE
F	ADDRESSABLE FIRE ALARM MANUAL PULL STATION
SD	SMOKE DETECTOR
	FIRE ALARM AUDIO/VISUAL NOTIFICATION APPLIANCE, CEILING MOUNTED
	FIRE ALARM VISUAL NOTIFICATION APPLIANCE, CEILING MOUNTED
S	FIRE ALARM SPEAKER NOTIFICATION APPLIANCE, CEILING MOUNTED
	FIRE ALARM SPEAKER/VISUAL NOTIFICATION APPLIANCE, CEILING MOUNTED
A	FIRE ALARM HORN NOTIFICATION APPLIANCE, WALL MOUNTED
	FIRE ALARM AUDIO/VISUAL NOTIFICATION APPLIANCE, WALL MOUNTED
S	FIRE ALARM SPEAKER NOTIFICATION APPLIANCE, WALL MOUNTED
S 15	FIRE ALARM SPEAKER/VISUAL NOTIFICATION APPLIANCE, WALL SWITCH
	FIRE ALARM VIUAL NOTIFICATION APPLIANCE, WALL MOUNTED
AM	ADDRESSABLE MONITOR MODULE
AR	ADDRESSABLE RELAY MODULE
	MAGNETIC DOOR HOLDER
HD	HVAC ELEVATOR HOISTWAY DAMPER
SD	HVAC SMOKE DAMPER
ZAM	ZONE ADAPTER MODULES
CO	CO DETECTOR
SD	SMOKE DETECTOR
VCC	VOICE COMMAND CENTER
DCD	DUCT CO DETECTOR
F	BELL
S HS	HIGH FIDELITY SPEAKER - CEILING MOUNT
S HS	HIGH FIDELITY SPEAKER - WALL MOUNT
ASD	AIR SAMPLING SMOKE DETECTOR

DEMOLITION NOTES

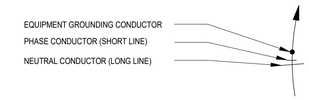
1. REFER TO SPECIFICATION SECTION 260502 FOR ADDITIONAL DEMOLITION INFORMATION.
2. REMOVE POWER, LIGHTING, CONTROL, AND COMMUNICATIONS DEVICES SHOWN, UNLESS NOTED OTHERWISE. REMOVE ALL UNUSED CONDUIT, RACEWAYS, WIRING, JUNCTION BOXES, DISCONNECTS, AND ACCESSORIES COMPLETELY BACK TO THE SOURCE.
3. MAKE PROVISIONS AND BACK-FEED OR RE-CIRCUIT ANY ITEMS THAT ARE EXISTING TO REMAIN WHICH ARE AFFECTED BY DEMOLITION.
4. INVESTIGATION OF EXISTING POWER AND LIGHTING SYSTEMS WILL BE REQUIRED BY THE E.C. AS PART OF THE BIDDING PROCESS TO DETERMINE THE FULL EXTENT OF DEMOLITION WORK REQUIRED. THE E.C. SHALL BE RESPONSIBLE FOR REMOVAL OF SOME PORTIONS OF POWER AND LIGHTING SYSTEMS NOT EXPLICITLY SHOWN ON THESE DRAWINGS, BUT ARE REQUIRED FOR THIS PHASE OF THE PROJECT. COORDINATE WITH THE CONSTRUCTION MANAGER, OWNER, AND ENGINEER TO DETERMINE WHICH PORTIONS OF EXISTING SYSTEMS MUST REMAIN ACTIVE AND WHICH PORTIONS MUST BE REMOVED.
5. E.C. SHALL FIELD VERIFY ACTUAL LOCATION AND SIZES OF EXISTING CONDUIT, WIRING, AND EQUIPMENT.
6. PATCH AND REPAIR ALL FINISHED SURFACE OPENINGS DUE TO DEMOLITION WHICH WILL NOT BE REUSED. COORDINATE WORK WITH THE FINISH CONTRACTORS.
7. PROTECT ALL FINISHED SURFACES THAT ARE NOT SCHEDULED FOR DEMOLITION. IF DAMAGED, THE RESPONSIBLE CONTRACTOR SHALL REPAIR TO MATCH EXISTING CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.
8. ALL SALVAGE SHALL REMAIN THE PROPERTY OF THE OWNER. DELIVER TO A LOCATION ON SITE AS DESIGNATED BY THE OWNER. IN THE EVENT THE OWNER DOES NOT WANT TO RETAIN THE SALVAGE MATERIAL, THE MATERIAL BECOMES THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OR RECYCLED BY THE CONTRACTOR.

GENERAL ELECTRICAL NOTES

1. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH N.E.C., LOCAL, AND ALL OTHER APPLICABLE CODES.
2. INSTALLATION OF EQUIPMENT SHALL BE IN ACCORDANCE WITH CURRENT STANDARDS AND SPECIFICATIONS APPROVED BY THE AUTHORITY HAVING JURISDICTION (AHJ). PLACE ALL CABLE/WIRING IN CONDUIT OR RACEWAY UNLESS NOTED OTHERWISE. PROVIDE NEW WIRING FOR ALL BRANCH CIRCUITS AND FEEDERS.
3. FEEDERS ON DRAWINGS ARE SCHEMATIC ONLY. CONDUIT RUNS SHALL COMPLY WITH CONDUIT SPECIFICATIONS AND CONTAIN BENDS THAT ARE NOT GREATER THAN 90 DEGREES.
4. ALL FEEDER AND BRANCH CIRCUITS TO PANELS, MOTORS, LIGHTS, RECEPTACLES, GENERAL DISTRIBUTION, ETC. SHALL CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR SIZED ACCORDING TO THE N.E.C. THE CONDUIT SYSTEM SHALL NOT BE CONSIDERED AN ACCEPTABLE GROUND.
5. ELECTRICAL INSTALLATION SHALL BE INSTALLED IN PHASES AS DIRECTED BY THE C.M. PROVIDE TEMPORARY AND PERMANENT CONNECTIONS AS REQUIRED TO MEET THE PHASING REQUIREMENTS. COORDINATE ALL REQUIRED OUTAGES WITH THE C.M. AND OWNER AS OUTLINED IN THE SPECIFICATIONS.
6. ALL WIRING AND FEEDER SIZES ON DRAWINGS ARE SIZED FOR COPPER WIRING UNLESS SPECIFICALLY NOTED OTHERWISE.

EQUIPMENT/DEVICE HOME RUN KEY

1. BRANCH CIRCUIT WIRING SHALL BE #12AWG UNLESS NOTED OTHERWISE ON THE PLAN OR IN THE SCHEDULES.
2. AS A MINIMUM USE 10 AWG CONDUCTOR FOR 20 AMPERE, 120 VOLT BRANCH CIRCUIT HOME RUNS LONGER THAN 100 FEET.
3. REFER TO SPECIFICATION SECTION 260519 FOR ADDITIONAL REQUIREMENTS.



LINE TYPE KEY

- NEW WORK BY THE E.C. (DARK SOLID LINE)
- NEW UNDERGROUND WORK BY THE E.C. (DARK DASHED LINE)
- WORK BY OTHERS AND/OR EXISTING (LIGHT SOLID LINE)
- DEMO WORK BY THE E.C. (DARK DASHED LINE)

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A	BID SET	03-07-2023

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WINDSOR HEIGHTS

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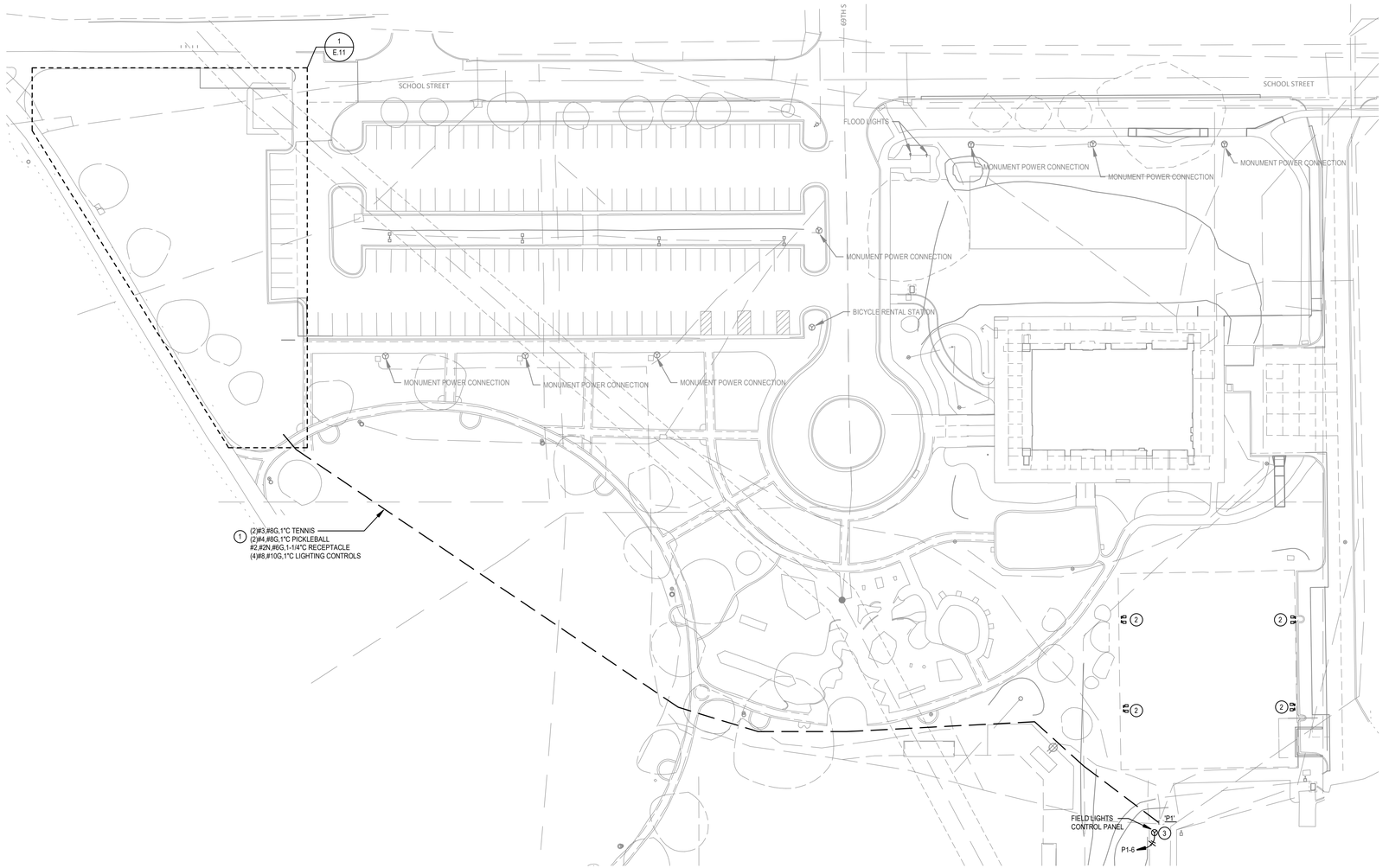
CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
ELECTRICAL PLAN PHASE 1

SHEET
E0.1



N

1 ELECTRICAL OVERALL PLAN

1" = 40'-0"

KEYED NOTES:

1. PROPOSED ROUTING FOR NEW TENNIS COURT LIGHTING CIRCUITS. REFER TO SHEET E.10 FOR ADDITIONAL INFORMATION AND CONTINUATION.
2. DEMO EXISTING TENNIS COURT LIGHTING, POLES, CONDUIT, AND CONDUCTORS BACK TO SOURCE.
3. LIGHTING CONTROLS CABINET PROVIDED BY SPORTS LIGHTING MANUFACTURER. ROUTE POWER FOR SPORTS LIGHTING THROUGH CONTROL CABINET CONTRACTORS. EXTEND UNISTRUT RACKING AS NEEDED FOR MOUNTING OF CONTROL PANEL.

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WINDSOR HEIGHTS
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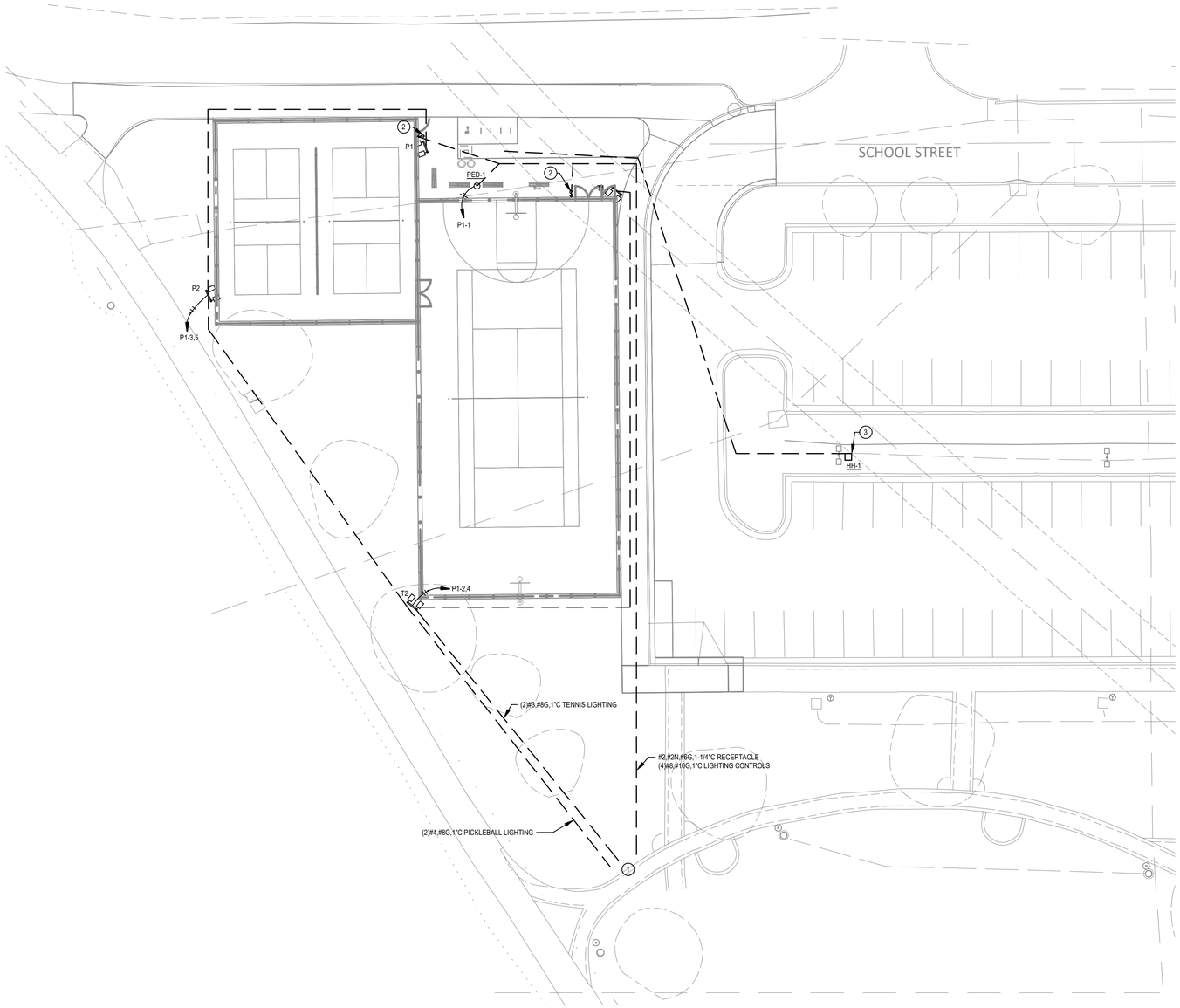
CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
ELECTRICAL PLAN PHASE 1

SHEET
E.10



KEYED NOTES:

1. PROPOSED ROUTING BACK TO PANEL P1. REFER TO SHEET E.10 FOR CONTINUATION.
2. MANUAL PUSH BUTTON, STOBE LIGHT, AND POLE SUPPLIED WITH SPORTS LIGHTING. BUTTON SHALL TURN CORRESPONDING SPORTS LIGHTS ON FOR 1 HOUR. STROBE LIGHT SHALL FLASH 10 MINUTES PRIOR TO LIGHTS SHUTTING OFF. PRESSING THE BUTTON AGAIN SHALL RESET TIMER FOR ANOTHER HOUR. LIGHTING IS TO BE DISABLED FROM PARK CLOSE (11PM) UNTIL DUSK THE NEXT DAY VIA ASTRONOMICAL TIME CLOCK IN CONTROLLER.
3. INTERCEPT RACEWAY FOR SITE LIGHTING AND INSTALL NEW JUNCTION BOX FOR FUTURE ACCESS TO CIRCUIT. PROVIDE1" CONDUIT TO NORTH SIDE OF PAVING FOR FUTURE TENNIS COURT AREA LIGHTING. CAP CONDUIT, PROVIDE TRACER WIRE, AND INDICATE EXACT LOCATION ON AS-BUILT DRAWINGS.

N

1 ELECTRICAL SITE PLAN

1" = 20'-0"

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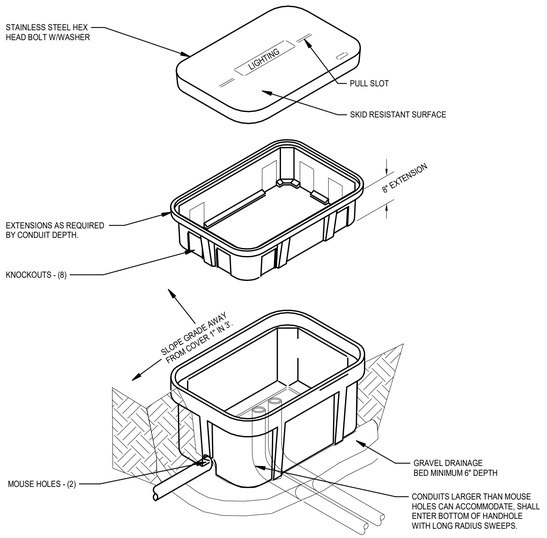
CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
ELECTRICAL PLAN PHASE 1

SHEET E.11

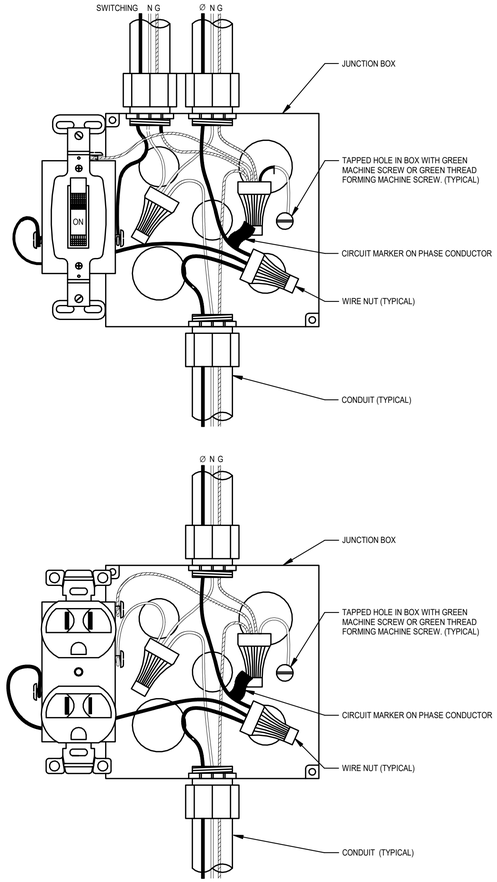


2 HANDHOLE

N.T.S.

NOTES:

1. REFER TO GENERAL ELECTRICAL SCHEDULE FOR SIZE OF HANDHOLE.



1 RECEPTACLE-SWITCH WIRING DETAIL

N.T.S.

NOTES:

1. GREEN GROUND CONDUCTOR SHALL BE CONTINUOUS SO THAT REMOVAL OF DEVICE WILL NOT INTERFERE WITH GROUND CONTINUITY PER 250.148 (B).
2. INSTALL AN EQUIPMENT BONDING JUMPER TO THE METALLIC BOX USING A LISTED GROUNDING SCREW PER 250.146. THE BONDING JUMPER MAY BE OMITTED ON SURFACE MOUNTED BOXES.
3. PROVIDE SEPARATE NEUTRAL FOR EACH CIRCUIT.

PANELBOARD: P1

LOCATION:
MOUNTING/TYPE: SURFACE / TYPE 1
FED FROM:
NOTES: EXISTING PANELBOARD

VOLTAGE: 240/120 Delta
PHASE: 3
WIRE: 4

MAIN DEVICE: 100 A - MCB
BUS RATING: 400
NEUTRAL RATING: 100%
A.I.C. RATING:

LOAD DESCRIPTION	BKR	PL	CKT	A		B		C		CKT	PL	BKR	LOAD DESCRIPTION
(N) PED-1	20 A	1	1	0.0	1.8					2			
(N) PICKLEBALL LIGHTING	20 A	2	3			1.1	1.8			4	2	25 A	(N) TENNIS LIGHTING
			5					1.1	0.2	6	1	20 A	(N) LIGHTING CONTROL...
SPACE	--	1	7	--	--					8	1	--	SPACE
SPACE	--	1	9			--	--			10	1	--	SPACE
SPACE	--	1	11					--	--	12	1	--	SPACE
SPACE	--	1	13	--	--					14	1	--	SPACE
SPACE	--	1	15			--	--			16	1	--	SPACE
SPACE	--	1	17					--	--	18	1	--	SPACE
SPACE	--	1	19	--	0.0					20	2	50 A	SPARE
SPACE	--	1	21			--	0.0			22			
(E) POLE LIGHTS	20 A	2	23					0.0	0.0	24	2	20 A	(E) EXISTING LOAD
			25	0.0	0.0					26			
(E) SOUTH PARK LIGHTS	20 A	1	27			0.0	--			28	1	--	SPACE
(E) IRRIGATION CONTROLS	20 A	1	29					0.0	--	30	1	--	SPACE
(E) BLEACHER GFCI	20 A	1	31	0.0	--					32	1	--	SPACE
(E) EXISTING LOAD	20 A	1	33			0.0	--			34	1	--	SPACE
(E) EXISTING LOAD	20 A	1	35					0.0	0.0	36	1	20 A	SPARE
(E) EXISTING LOAD	20 A	1	37	0.0	0.0					38	1	20 A	(E) EXISTING LOAD
(E) STAGE PANEL	200 A	2	39			0.0	0.0			40	2	100 A	(E) BOLLARD PANELS
			41					0.0	0.0	42			
	TOTAL LOAD:			1760 VA		2840 VA		1260 VA					
	TOTAL AMPS:			15 A		24 A		11 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals:	
LIGHTING	5680 VA	100%	5680 VA		
Other	180 VA	100%	180 VA	**CONNECTED LOAD:**	5860 VA
				ESTIMATED DEMAND:	5860 VA
				CONNECTED CURRENT:	14 A
				EST. DEMAND CURRENT:	14 A

NOTES:
(N) DENOTES NEW BREAKER. (E) DENOTES EXISTING BREAKER

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	MODEL	WATTS	LIGHT SOURCE	POWER SUPPLY	MOUNTING	VOLT	ACCEPTABLE MANUFACTURERS
P1	ATHLETIC FIELD SPORTS LIGHTING, (2) 540W LUMINAIRES MOUNTED AT 40' WITH 67000 MINIMUM DELIVERED LUMENS	MUSCO	(2) TLC-LED-550	1080 W	LED	DRIVER	40' STEEL POLE W/ PRECAST CONCRETE CAISSON BASE	240 V	REFER TO SPEC
P2	ATHLETIC FIELD SPORTS LIGHTING, (2) 540W LUMINAIRES MOUNTED AT 40' WITH 67000 MINIMUM DELIVERED LUMENS	MUSCO	(2) TLC-LED-550	1080 W	LED	DRIVER	40' STEEL POLE W/ PRECAST CONCRETE CAISSON BASE	240 V	REFER TO SPEC
T1	ATHLETIC FIELD SPORTS LIGHTING, (2) 880W LUMINAIRES MOUNTED AT 40' WITH 104000 MINIMUM DELIVERED LUMENS	MUSCO	(2)TLC-LED-900	1760 W	LED	DRIVER	40' STEEL POLE W/ PRECAST CONCRETE CAISSON BASE	240 V	REFER TO SPEC
T2	ATHLETIC FIELD SPORTS LIGHTING, (2) 880W LUMINAIRES MOUNTED AT 40' WITH 104000 MINIMUM DELIVERED LUMENS	MUSCO	(2)TLC-LED-900	1760 W	LED	DRIVER	40' STEEL POLE W/ PRECAST CONCRETE CAISSON BASE	240 V	REFER TO SPEC

GENERAL ELECTRICAL SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER
	CONNECTION TO MECHANICAL EQUIPMENT	MOTOR/EQUIPMENT FURNISHED AND INSTALLED BY M.C.
J J	ELECTRICAL CONNECTION TO MISC. EQUIPMENT	EQUIPMENT FURNISHED AND INSTALLED BY OTHERS
HH-1	IN GRADE HAND HOLE WITH GASKETED COVER, 12"X12", POLYMER CONCRETE, REFER TO DETAIL 2/ES.0	QUAZITE PC1212BA12/PC1212HA00 HUBBELL POWER SYSTEMS
PED-1	CHARGING STATION PEDESTAL, NEMA 3R RATING, TWO GFI DUPLEX RECEPTACLES WITH WHILE-IN-USE COVER DOOR, 34" HEIGHT, BLACK FINISH	LEGRAND XCSPP3GRRU-BK

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WINDSOR HEIGHTS the heart of it all

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CITY OF WINDSOR HEIGHTS, IOWA
COLBY PARK PHASE 1
ELECTRICAL PLAN PHASE 1

SHEET: E.50

STAFF REPORT
CITY COUNCIL
March 6, 2023

TO: CITY COUNCIL

FROM: Justin Ernst, City Engineer

SUBJECT: Consideration of Resolution No. 2023-16 - A Resolution Authorizing the City to Submit to the US Department of Transportation a Rebuilding American Infrastructure Sustainability and Equity (RAISE) Grant Application

GENERAL INFORMATION

SUMMARY

ATTACHMENTS

1. Resolution No. 2023-16 - Raise Grant Application

RESOLUTION NO. 2023-16

A RESOLUTION AUTHORIZING THE CITY TO SUBMIT TO THE US DEPARTMENT OF TRANSPORTATION A REBUILDING AMERICAN INFRASTRUCTURE WITH SUSTAINABILITY AND EQUITY (RAISE) GRANT APPLICATION

WHEREAS, the US Department of Transportation (DOT) established the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program and has announced funding availability under said Program for transportation infrastructure grants; and

WHEREAS, the City is an eligible applicant with a proven track record of successfully implementing Federal funding from the DOT; and

WHEREAS, the project total for the 2023 application is estimated at $17,685,700 dollars, of which the City is proposing a RAISE grant of $14,148,600; and

WHEREAS, the City is proposing utilizing local funding and matching funds to support $3,537,100 of the project to ensure a competitive application; and

WHEREAS, the City Council has reviewed the request and found it to be in the best interest of the City.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF WINDSOR HEIGHTS, IOWA:

Section 1. The City staff and Mayor is hereby authorized to prepare and submit a Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program application for $17,685,700; and

Section 2. The Council hereby authorizes staff to accept the award if granted and sign necessary agreements to execute an award.

Passed and Approved this 6th day of March, 2023.

_____
Mike Jones, Mayor

_____
Travis Cooke, City Clerk

STAFF REPORT
CITY COUNCIL
March 6, 2023

TO: CITY COUNCIL

FROM: Rachelle Swisher, Finance Director - Interim City Administrator

SUBJECT: FY 2023-2024 Budget Discussion

GENERAL INFORMATION

Changes to the proposed FY24 budget

SUMMARY

With the passing of Senate File 181, the residential rollback was altered to remove properties previously known as multi-residential from the calculation for the assessment year 2022 (Fiscal Year 24). This reduced the residential rollback by 1.84% from 56.49% to 54.65%. This also extended the city budget certification date to April 30 for the FY24 budget.

This change in the rollback has resulted in our valuations changing as shown below:

	Regular	Debt Service	Taxes Generated	Levy Rate
Before SF181	260,088,351	317,825,007	3,732,899	13.76541
After SF181	252,327,870	309,840,215	3,629,397	13.76541
Revenue Loss	-	-	103,502	-

The rollback alteration has resulted in a loss of revenue of $103,502. This occurs even though our levy rate stays exactly the same.
These new valuations were just given to me by Polk County this week. I have asked all our department heads to find ways to cut items from their budgets in order to compensate for the loss in revenue. These changes will be reflected in new department pages that will be given to Council ahead of the 3/20/23 Council meeting.

ATTACHMENTS

1. Updated Budget Calendar
2. Max Levy Notice
3. Budget Certification Page

FY24 BUDGET CALENDAR - UPDATED

Updated State Law requires reporting of the FY24 City Budget by 4/30/23.

December 2022

12/19/22	Budget Kickoff Meeting w/Council

January 2023

1/1/23-1/31/23	Staff works on budget documents

February 2023

2/6/23	Budget Presentation (w/updated CIP) to Council & Public Forum held
2/13/23-2/17/23	Individual meetings with Council (if requested)
Week of 2/13/23	Personnel & Finance Committee review proposed budget
2/20/23	A. City Council Budget/CIP Review Work Session B. Council sets Capital Improvement Plan Public Hearing (to be held on 3/6)

March 2023

3/6/23	A. Capital Improvement Plan Public Hearing B. Resolution for Capital Improvement Plan approved C. Council sets Maximum Property Tax Public Hearing (to be held on 3/20)
3/20/23	A. Maximum Property Tax Public Hearing is held B. Resolution for Maximum Property Tax is approved C. Council sets Budget Public Hearing (to be held on 4/3)

April 2023

4/3/23	Budget Public Hearing & Adoption of Final Budget
4/28/23	Approved Budget certified to Iowa Dept. of Management prior to 4/30

NOTICE OF PUBLIC HEARING - CITY OF WINDSOR HEIGHTS - PROPOSED PROPERTY TAX LEVY
Fiscal Year July 1, 2023 - June 30, 2024

The City Council will conduct a public hearing on the proposed Fiscal Year City property tax levy as follows:

Meeting Date: 3/20/2023 **Meeting Time:** 06:00 PM **Meeting Location:** 1133 66th Street, Windsor Heights IA 50324

At the public hearing any resident or taxpayer may present objections to, or arguments in favor of the proposed tax levy. After adoption of the proposed tax levy, the City Council will publish notice and hold a hearing on the proposed city budget.

City Website (if available)
winsorheights.org

City Telephone Number
(515) 279-3662

	Current Year Certified Property Tax 2022 - 2023	Budget Year Effective Property Tax 2023 - 2024	Budget Year Proposed Maximum Property Tax 2023 - 2024	Annual % CHG
Regular Taxable Valuation	254,728,097	252,327,870	252,327,870	
Tax Levies:				
Regular General	2,063,298	2,063,298	2,043,856	
Contract for Use of Bridge			0	
Opr & Maint Publicly Owned Transit			0	
Rent, Ins. Maint. Of Non-Owned Civ. Ctr.			0	
Opr & Maint of City-Owned Civic Center			0	
Planning a Sanitary Disposal Project			0	
Liability, Property & Self-Insurance Costs			118,700	
Support of Local Emer. Mgmt. Commission			0	
Emergency			29,582	
Police & Fire Retirement			0	
FICA & IPERS	335,000	335,000	328,347	
Other Employee Benefits	497,453	497,453	202,918	
Total Tax Levy	2,895,751	2,895,751	2,723,403	-5.95
Tax Rate	11.36801	11.47614	10.79311	

Explanation of significant increases in the budget:
There is no increase in the budget. This page does NOT reflect the entire tax levy rate. Not shown are the Voted Other Permissible Levies and the Debt Service Levy.

If applicable, the above notice also available online at:
windsorheights.org

*Total city tax rate will also include voted general fund levy, debt service levy, and capital improvement reserve levy.
**Budget year effective property tax rate is the rate that would be assessed for these levies if the dollars requested is not changed in the coming budget year

FISCAL YEAR JULY 1, 2023 - JUNE 30, 2024

ADOPTION OF BUDGET AND CERTIFICATION OF CITY TAXES

The City of : WINDSOR HEIGHTS County Name: POLK COUNTY

Adopted On: (entered upon adoption) **Resolution: (entered upon adoption)**

The below-signed certifies that the City Council, on the date stated above, lawfully approved the named resolution adopting a budget for next fiscal year, as summarized on this and the supporting pages.

		With Gas & Electric		Without Gas & Electric	
Regular	2a	252,327,870	2b	250,204,096	**City Number: 77-728**
DEBT SERVICE	3a	309,840,215	3b	307,716,441	**Last Official Census: 5,252**
Ag Land	4a	0			

TAXES LEVIED

Purpose	Dollar Limit	ENTER FIRE DISTRICT RATE BELOW			Request with Utility Replacement	Property Taxes Levied		Rate
Regular General levy	8.10000			5	2,043,856	2,026,653	43	8.10000
Non-Voted Other Permissible Levies								
Contract for use of Bridge	0.67500			6		0	44	0.00000
Opr & Maint publicly owned Transit	0.95000			7		0	45	0.00000
Rent, Ins. Maint of Civic Center	Amt Nec			8		0	46	0.00000
Opr & Maint of City owned Civic Center	0.13500			9		0	47	0.00000
Planning a Sanitary Disposal Project	0.06750			10		0	48	0.00000
Aviation Authority (under sec.330A.15)	0.27000			11		0	49	0.00000
Levee Impr. fund in special charter city	0.06750			13		0	51	0.00000
Liability, property & self insurance costs	Amt Nec			14	118,700	117,701	52	0.47042
Support of a Local Emerg.Mgmt.Comm.	Amt Nec			462		0	465	0.00000
Voted Other Permissible Levies								
Instrumental/Vocal Music Groups	0.13500			15		0	53	0.00000
Memorial Building	0.81000			16		0	54	0.00000
Symphony Orchestra	0.13500			17		0	55	0.00000
Cultural & Scientific Facilities	0.27000			18		0	56	0.00000
County Bridge	As Voted			19		0	57	0.00000
Missi or Missouri River Bridge Const.	1.35000			20		0	58	0.00000
Aid to a Transit Company	0.03375			21		0	59	0.00000
Maintain Institution received by gift/devise	0.20500			22		0	60	0.00000
City Emergency Medical District	1.00000			463		0	466	0.00000
Support Public Library	0.27000			23	65,564	65,013	61	0.25984
Unified Law Enforcement	1.50000			24		0	62	0.00000
Total General Fund Regular Levies (5 thru 24)				25	2,228,120	2,209,367		
Ag Land	3.00375			26			63	0.00000
Total General Fund Tax Levies (25 + 26)				27	2,228,120	2,209,367		
Special Revenue Levies								
Emergency (if general fund at levy limit)	0.27000			28	29,582	29,334	64	0.11724
Police & Fire Retirement	Amt Nec			29		0		0.00000
FICA & IPERS (if general fund at levy limit)	Amt Nec			30	328,347	325,583		1.30127
Other Employee Benefits	Amt Nec			31	202,918	201,209		0.80418
Total Employee Benefit Levies (29,30,31)				32	531,265	526,792	65	2.10545
Sub Total Special Revenue Levies (28+32)				33	560,847	556,126		
As Req		**With Gas & Elec Valuation**	**Without Gas & Elec Valuation**					
SSMID 1		0	0	34		0	66	0.00000
SSMID 2		0	0	35		0	67	0.00000
SSMID 3		0	0	36		0	68	0.00000
SSMID 4		0	0	37		0	69	0.00000
SSMID 5		0	0	555		0	565	0.00000
SSMID 6		0	0	556		0	566	0.00000
SSMID 7		0	0	1177		0	1179	0.00000
SSMID 8		0	0	1185		0	1187	0.00000
Total Special Revenue Levies				39	560,847	556,126		
Debt Service Levy 76.10(6)	Amt Nec			40	840,430	834,669	70	2.71246
Capital Projects (Capital Improv. Reserve)	0.67500			41		0	71	0.00000
Total Property Taxes (27+39+40+41)				42	3,629,397	3,600,162	72	13.76541

(Signature) (Date) (County Auditor) (Date)

STAFF REPORT
CITY COUNCIL
March 6, 2023

TO: CITY COUNCIL

FROM: Rachelle Swisher, Finance Director - Interim City Administrator

SUBJECT: Consideration of Resolution No. 2023-17 - A Resolution Setting Date for Public Hearing to consider the FY24 Maximum Property Tax Dollars

GENERAL INFORMATION

SUMMARY

ATTACHMENTS

1. Resolution No. 2023-17 - A Resolution Setting Date for Public Hearing to consider the FY24 Maximum Property Tax Dollars
2. Max Levy Notice

RESOLUTION NO. 2023-17

A RESOLUTION SETTING TIME AND PLACE FOR A PUBLIC HEARING FOR THE PURPOSE OF CONSIDERING THE MAXIMUM TAX DOLLARS FOR CERTAIN LEVIES FOR THE CITY'S PROPOSED FISCAL YEAR 2023-2024 BUDGET

WHEREAS, the City Council of the City of Windsor Heights is preparing the annual budget for the Fiscal Year 2023-2024; and

WHEREAS, Iowa SF 634 requires a public hearing on the proposed City Maximum Property Tax Dollars for certain levies where any resident or taxpayer of the City may present to the City Council objections or arguments in favor of the tax dollars before the budget is adopted and certified to the County Auditor; and

WHEREAS, interested residents or taxpayers having comments for or against the proposed City Maximum Property Tax Dollars for Certain Levies may appear and be heard at the public hearing at the City Council Meeting on March 20, 2023, at 6:00 p.m. at 1133 66th Street, Windsor Heights, IA.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Windsor Heights, Iowa, that this confirms that the City Council orders the publication of a notice of public hearing pertaining to the Maximum Property Tax Dollars for Certain Levies. The City Clerk shall post notice of said hearing, which posting shall be at the three public places in said City which have been permanently designated by ordinance, such notice being in the form attached to this resolution, and such posting shall not be less than ten (10) days nor more than twenty (20) days prior to the date set for the hearing. A notice shall also be posted on the city website and social media accounts.

Passed and approved this 6th day of March, 2023.

_____
Mike Jones, Mayor

ATTEST:

_____
Travis Cooke, City Clerk

NOTICE OF PUBLIC HEARING - CITY OF WINDSOR HEIGHTS - PROPOSED PROPERTY TAX LEVY
Fiscal Year July 1, 2023 - June 30, 2024

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STAFF REPORT
CITY COUNCIL
March 6, 2023

TO: CITY COUNCIL

FROM:

SUBJECT: Mayor, Council Reports and Committee Updates, and Administration Reports

GENERAL INFORMATION

SUMMARY

ATTACHMENTS
None