AGENDA
CITY COUNCIL STUDY SESSION
FEBRUARY 27, 2023 - 6:00PM
CITY OF FARMINGTON HILLS
CITY HALL – COMMUNITY ROOM
31555 W ELEVEN MILE ROAD
FARMINGTON HILLS, MICHIGAN
Telephone: 248-871-2410 Website: www.fhgov.com

1. Call Study Session to Order
2. Roll Call
3. Review of Liquor License Policy
4. Update on the City's 50th Anniversary
5. Adjourn Study Session

Respectfully submitted,

Pamela B. Smith, City Clerk

Reviewed by:

Gary Mekjian, City Manager

NOTE: Anyone planning to attend the meeting who has need of special assistance under the Americans with Disabilities Act (ADA) is asked to contact the City Clerk's Office at 248-871-2410 at least two (2) business days prior to the meeting, wherein necessary arrangements/accommodations will be made. Thank you.

OFFICE OF CITY CLERK

INTEROFFICE CORRESPONDENCE

TO: Mayor and City Council

FROM: Pamela B. Smith, City Clerk

DATE: February 24, 2023

SUBJECT: Review of Liquor License Policy

It has been requested that City Council consider reviewing the current Liquor License Policy, specifically when Council shall review new applications.

The policy is provided, and staff is seeking feedback. Any recommended changes would be brought back to a regular meeting for consideration.

CITY OF FARMINGTON HILLS
LIQUOR LICENSE POLICY

WHEREAS, the City Council of the City of Farmington Hills has the authority to approve the issuance of new liquor licenses for consumption on the premises to certain parties; and

WHEREAS, the City Council of the City of Farmington Hills must endeavor to cause the greatest benefit to the community from the use of its approval powers in the matter of the issuance of such licenses;

NOW THEREFORE, BE IT RESOLVED, that the City Council shall consider the following guidelines in connection with the approval of the remaining licenses for use in the City of Farmington Hills:

1. Compatibility of proposed use with the surrounding land uses with attention to the effect the proposed location would have on the economic development of the area.
2. Compatibility of proposed use with abutting roadways with attention to the traffic circulation and traffic impact on the surrounding area.
3. The proximity of the proposed use to similar existing operations and establishments already serving alcohol will be taken in to consideration.
4. The proximity of the proposed use to office service and commercial enterprises so as to accommodate the tenants and their employees shall be taken into consideration.
5. Consideration shall be given to the proximity of the proposed use to residential, school and church districts with reference to the possible adverse effect such use may have on such districts.
6. Consideration shall be given as to the effect in general the issuance of the license would have on the health, welfare and safety of the general public.
7. Consideration will be given to the effect the proposed location would have in contributing to the economic stability or revitalization of areas within the City.

BE IT FURTHER RESOLVED, that the City Council shall consider the following guidelines in connection with the applicant for a license:

1. The applicant's general management experience and business reputation in connection with the operation of similar facilities.
2. The applicant's moral character with special consideration being given to any past criminal convictions for crimes involving moral turpitude, violence or alcoholic liquor violations by the applicant or those whom he intends to manage the proposed facility.
3. The existence of adequate financial resources for the establishment and operation of the proposed licensed business in proportion to the type and size of the proposed business.
4. If a corporation applies for the licenses, the word "applicant" used in this Resolution shall be considered to include the current corporate officers.

BE IT FURTHER RESOLVED, that prior to the hearing on all new applications for liquor licenses for consumption on the premises and transfers of location applications for such licenses, the applicant shall meet the following conditions within a stated period of time and submit to the City Council the following:

1. That a preliminary site plan showing the location of the proposed building, the architectural design, building elevations and other pertinent physical features of the proposed building to be constructed on the premises be submitted to the City Clerk to be conveyed to the City's Planning/Building and Fire Departments for recommendation.
2. That the floor plans, seating arrangements, the interior design and the type of furniture and fixtures to be used in the proposed restaurant facilities be submitted to the City Clerk to be conveyed to the City's Planning/Building and Fire Departments for recommendation.
3. If the building is already constructed, then in addition to the above, the applicant shall furnish any proposed renovation to both the interior and exterior of the premises or any proposed building alterations, to meet and comply with all existing City Codes and Ordinances; with these plans to be submitted to the City Clerk and conveyed to the City's Planning/Building and Fire Departments for recommendation.
4. That the applicant's experience, financial capability, history of experience as a licensee, proposed food service menus and other facts or proposals pertinent to the operation of the proposed facility be submitted to the City Clerk for conveyance to the Police Department for recommendation.
5. A statement as to when applicant intends to commence construction or renovation of the proposed building or facility and when applicant expects to complete such construction and place such license into full operation.
6. The applicant shall also furnish such other material, as it may deem pertinent to the consideration of the application by the Council.
7. That the findings and recommendations of the Planning/Building, Fire and Police Departments are forwarded to the City Clerk and following which, all such findings and recommendations are placed on the City Council Agenda by the City Clerk and that approval of such licenses shall be contingent upon the application for and receipt of site plan approval, building permits, zoning changes and other necessary approvals by the City of Farmington Hills within six (6) months after the approval.
8. That construction be started within six (6) months after the issuance of a license, unless specifically altered by the City Council, at which time the progress of the applicant in meeting all of the above stated conditions will be reported to the City Council.
9. That no floor plan, building elevation, site plan, seating arrangement, kitchen layout or other pertinent facts, drawings or documents submitted to the City of Farmington Hills at the time of their approval may be changed, unless it is a reasonable improvement in design or service function of the facility, at such time the applicant seeks approval at any of the other administrative divisions of the City, nor upon final construction of buildings or alterations of them.
10. That the failure of any applicant to meet any of the above conditions may be reasons, but not necessarily the only reasons, for the City Council to deny the annual renewal of any of the licenses issued and further that a review of any

license which has not been activated by the licensee will be conducted by the City Council and if satisfactory performance pursuant to the above conditions is not found, then the City Council reserves the right to withdraw its approval and deny the license at the time of review or at the time of annual renewal.

BE IT FURTHER RESOLVED, that the aforesaid provisions are to be considered as only guidelines for the applicant and this City Council, and nothing in this Resolution shall be construed to prevent this City Council from deleting or adding to such guidelines in its discretion, and no applicant shall be considered to have acquired any vested interest in the issuance of a license by complying with any of the guidelines until the approval for the issuance of the license is given by this City Council.

BE IT FURTHER RESOLVED, that all applications for a license shall be made to the City Council on forms which are to be obtained from the City Clerk's Office and upon completion of the information required on such forms to be filed with the City Clerk.

BE IF FURTHER RESOLVED, that any applicant who shall make any statement either orally or in writing to the City Council for the purpose of inducing this City Council to approve the issuance of a license, which statement is false or fraudulent, shall be deemed to have forfeited the right to such approval, and this City Council reserves the right to withdraw its approval or if a license has already been issued, to request the Michigan Liquor Control Commission to revoke such license or to request the Michigan Liquor Control Commission to deny the renewal of any license issued to such applicant. Any material deviation made by the applicant without the consent of this City Council in connection with the proposed construction or renovation of the building and the restaurant facilities shall be deemed to constitute such false and fraudulent statement.

BE IT FURTHER RESOLVED, that City Council shall conduct hearings on applications, if any are pending or available, three times each year, this being during the months of January, May and September at regularly scheduled Council meetings.

BE IT FURTHER RESOLVED, that nothing in this Resolution should be construed as a representation by this City Council that the issuance of the remaining licenses will be approved, and this City Council further reserves the right to withhold hearings on any applications until at some future time to be designated by this City Council.

Approved by Council this 12th day of December, 1994.

KATHRYN A. DORNAN
CITY CLERK

AGENDA
CITY COUNCIL MEETING
FEBRUARY 27, 2023 – 7:30PM
CITY OF FARMINGTON HILLS
31555 W ELEVEN MILE ROAD
FARMINGTON HILLS, MICHIGAN
Telephone: 248-871-2410 Website: www.fhgov.com
Cable TV: Spectrum – Channel 203; AT&T – Channel 99
YouTube Channel: https://www.youtube.com/user/FHChannel8

REQUESTS TO SPEAK: Anyone requesting to speak before Council on any agenda item other than an advertised public hearing issue must complete and turn in to the City Clerk a blue, Public Participation Registration Form (located in the wall rack by the south door entering the council chambers).

REGULAR SESSION MEETING BEGINS AT 7:30P.M. IN THE CITY COUNCIL CHAMBER

STUDY SESSION (6:00 P.M. Community Room – See Separate Agenda)

REGULAR SESSION MEETING

CALL REGULAR SESSION MEETING TO ORDER

PLEDGE OF ALLEGIANCE

ROLL CALL

1. Approval of regular session meeting agenda

2. Introduction of LaToya Harvey, Director of Diversity, Equity, Inclusion and Employee Development

3. Historic District Commission 2022 Annual Report Presentation

4. Report on Independent Legal Review for Police Department Training

CORRESPONDENCE

CONSENT AGENDA - (See Items No. 6 - 19)

All items listed under Consent Agenda are considered routine, administrative, or non-controversial by the City Council and will be enacted by one motion. There will be no separate discussion of these items, unless a Council Member or citizen so requests, in which event the items may be removed from the Consent Agenda for consideration.

CONSENT AGENDA ITEMS FOR DISCUSSION

PUBLIC QUESTIONS AND COMMENTS

Limited to five (5) minutes for any item of City business not on the agenda.

COUNCIL MEMBERS COMMENTS AND ANNOUNCEMENTS

CITY MANAGER UPDATE

NEW BUSINESS:

5. Consideration of approval of the INTRODUCTION of an ordinance to amend the Farmington Hills Code of Ordinances Chapter 33, "Water and Sewers," to add Division 2, "Stormwater Engineering Design Standards" to Article IX, "Stormwater Management," to adopt and enact Engineering Design Standards developed by the Oakland County Water Resource Commissioners Office. CMR 2-23-22

CONSENT AGENDA:

6. Recommended approval of the American Rescue Plan Act (ARPA) Interlocal Agreement with Oakland County. CMR 2-23-23

7. Recommended approval of agreement with Michigan Department of Transportation (MDOT) for the Pavement Rehabilitation Project on 14 Mile Road between Drake Road and Farmington Road. CMR 2-23-24

8. Recommended approval of agreement with Michigan Department of Transportation (MDOT) for the Farmington Road Construction Project from 12 Mile Road to 13 Mile Road. CMR 2-23-25

9. Recommended adoption of a resolution establishing the Salvador Street (Whitlock to Hugo) Water Main Payback District and final payback costs. CMR 2-23-26

10. Recommended adoption of a resolution establishing the Salvador Street (Whitlock to Hugo) Sanitary Sewer Payback District and final payback costs. CMR 2-23-27

11. Recommended adoption of a resolution establishing the Normandy Hills Water Main Payback District and final payback costs. CMR 2-23-28

12. Recommended adoption of a resolution establishing the Quaker Valley Farms Addition Water Main Payback District and final payback costs. CMR 2-23-29

13. Recommended approval of award of contract for the Heritage Hills and Wedgwood Commons Subdivision Road Reconstruction Program Phase III to Fonson Company Inc. in the amount of $3,762,982.56. CMR 2-23-30

14. Recommended approval of award of bid for utility cart with plow to Carleton Equipment Co, Inc. in the amount of $28,741.21. CMR 2-23-31

15. Recommended approval of award of purchase of turnout boots to Macqueen Emergency, LLC in the total amount of $76,680, with possible extensions. CMR 2-23-32

16. Recommended approval of award of contract for the Farmington Freeway Industrial Park Phase 2 – Research Drive and Freeway Park Drive Reconstruction Project to Hard Rock Concrete, inc. in the amount of $3,977,338.61. CMR 2-23-33

17. Recommended approval of award of agreement for repair and restoration of the stone wall at Longacre/Heritage Park to National Restoration, Inc. in the amount of $132,970.61. CMR 2-23-34

18. Recommended approval of City Council study session meeting minutes of February 13, 2023.

19. Recommended approval of City Council regular session meeting minutes of February 13, 2023.

ADDITIONS TO AGENDA

CLOSED SESSION:

20. Consideration of approval to enter into a closed session regarding pending litigation under Section 8(e) of the Open Meetings Act (*Greenfield v City of Farmington Hills*) (Note: Council will return to open session immediately following the closed session to take action if needed and to close the meeting)

ADJOURNMENT

Respectfully submitted,

Pamela B. Smith, City Clerk

Reviewed by:

Gary Mekjian, City Manager

NOTE: Anyone planning to attend the meeting who has need of special assistance under the Americans with Disabilities Act (ADA) is asked to contact the City Clerk's Office at 248-871-2410 at least two (2) business days prior to the meeting, wherein necessary arrangements/ accommodations will be made.

FARMINGTON HILLS Michigan

Inter-Office Correspondence

DATE: **February 17, 2023 (February 27, 2023, City Council Meeting)**

TO: **Mayor and City Council**

FROM: **Historic District Commission**

SUBJECT: **Historic District Commission 2022 Annual Report**

The Historic District Commission is forwarding its 2022 Annual Report for review and acceptance by City Council. The Historic District Commission adopted the report at their February 8, 2023, meeting. The Planning Commission accepted the report at their February 16, 2023, meeting. City ordinances require that the Historic District Commission prepare and present an annual report to both the Planning Commission and City Council summarizing the Historic District Commission's activities in the prior year.

In accordance with the Historic District Commission's bylaws, once accepted by City Council, the annual report shall be forwarded to the State of Michigan Historic Preservation Office to comply with Certified Local Government requirements.

Historic District Commission Chair, Marleen Tulas, will be in attendance this evening to present the report.

ATTACHMENT:

Historic District Commission 2022 Annual Report

CITY OF FARMINGTON HILLS HISTORIC DISTRICT COMMISSION
2022 ANNUAL REPORT

The City Farmington Hills Historic District Commission is charged with preserving historic districts within the City that reflect elements of the architectural, cultural, economic, political, or social history of the community. This seven (7)-member commission is comprised of City residents working diligently over the past year to further this goal. This report summarizes the Commission's activities in 2022.

2022 Commission Membership

Alec Thomson
James Paulson, Chair
John Trafelet
Ken Klemmer, Vice Chair
Lisa Martin, Recording Secretary (resigned)
Marleen Tulas
Steve Olson

City Council Liaison:	Valerie Knol, Councilperson
City Staff Liaison(s):	Kris Canty, Staff Planner (newly assigned)
	Erik Perdonik, City Planner (outgoing)

2022 Historic District Commission Goals, Objectives, and Initiatives

- ☐ Assist the City's Special Services Department with continued restoration work on the fieldstone wall at the Sherman-Goodenough House (Historic District Site No. 312).
- ☐ Assist the City's Special Services Department with upcoming work on the Spicer House (Historic District Site No. 508) and implement a comprehensive restoration plan for the site.
- ☐ Continue collaboration between the Historic District Commission and City's Department of Public Works in implementing the cemetery preservation plan, including additional monument cleaning and resetting.
- ☐ Continue the oral history project using online meeting software and other digital tools to capture interviews of residents, officials, and community stakeholders.
- ☐ Continue to update the "Blue Book," the City's official guide to its Historic Districts, for accuracy and comprehensiveness, and explore a potential internship opportunity within the Planning Office to assist in such process.
- ☐ Comprehensive video and photo documentation of Sarah Fisher property since development may begin soon.
- ☐ Continue to monitor the preservation status of the Botsford Inn and work with the responsible parties to address various issues regarding the exterior of the structure.
- ☐ Complete study of properties identified in the 2019 reconnaissance survey by contacting property owners and informing them of benefits of local historic designation and continue to identify new sites for potential historic designation.
- ☐ Develop a standardized "welcome package" for new owners of designated historic sites.

2023 Historic District Commission Goals, Objectives, and Initiatives

- ☐ Assist the City's Special Services Department with continued restoration work on the fieldstone wall at the Sherman-Goodenough House (Historic District Site No. 312).
- ☐ Assist the City's Special Services Department with upcoming work on the Spicer House (Historic District Site No. 508) and implement a comprehensive restoration plan for the site.
- ☐ Continue collaboration between the Historic District Commission and City's Department of Public Works in implementing the cemetery preservation plan, including additional monument cleaning and resetting.
- ☐ Continue to update the "Blue Book," the City's official guide to its Historic Districts, for accuracy and comprehensiveness.
- ☐ Complete study of properties identified in the 2019 reconnaissance survey by contacting property owners and informing them of benefits of local historic designation and continue to identify new sites for potential historic designation.

Historic District Commission Meetings

In 2022, the Historic District Commission held ten (10) regular meetings; meetings in January and August were cancelled due to lack of business.

Review of Work Within Historic Districts

Certificates of Appropriateness are granted for a project which meets the United States Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings, as set forth in Tile 36 of the Code of Federal Regulations, Part 67, as amended.

Certificates of Appropriateness

In 2022, ten (10) Certificates of Appropriateness were issued for work within the following districts:

Historic District Site No. 206 – Drake House – 28804 Drake Road

Site Overview

This homestead is for Theodore Francis Drake II and his wife, Emma, who raised eight children on the family acres. The house was originally built ca. 1830 by a member of the Wixom family. Hand-hewn beams are visible in the basement. The Drake brothers, William and Theodore, purchased the property in 1867. They farmed the acres, with the help of their sister, Esther, who kept the house.

William and Esther left, and the farm went to Theodore who named Drake Road when the Edison line came through the Township in the early 1900's. Extensive remodeling was done to the house in 1938 giving it a historic Federalist and Greek Revival style. There is an early barn on the property.

Certificate of Appropriateness 22-1

The Historic District Commission issued a Certificate of Appropriateness for the replacement of the existing six (6)-foot-tall, white, wooden privacy fence enclosing the property with a six (6)-foot-tall, white, vinyl picket fence.

Historic District Site No. 508 – Spicer House – Heritage Park on Farmington Road

Site Overview

The long low English Country House was designed to blend in with the landscape by talented architect Marcus Burrowes. The house was built in 1926 for attorney David Gray and his wife, Martha. It originally stood on twelve acres of land.

The house was designed with two wings; the outdoors was visible from all rooms. This design was not only beautiful, but practical, because of the cross ventilation.

The land is now Heritage Park with this jewel of a house as its heart. The Spicer House serves as the Park's Visitor Center, with the wings modernized to serve as classrooms and meeting areas. The four (4) historic rooms: the hall, living room with cathedral ceiling, library and dining room, serve for gatherings and displays.

Certificate of Appropriateness 22-2

The Historic District Commission issued a Certificate of Appropriateness for the removal of the existing wood shingle roof and replacement with a synthetic shake roof, and minor stucco and trim repairs, subject to:

- The Commission making the final selection of the color of the roofing product.
- The existing ridge cap being refurbished and reused or an alternative ridge cap that resembles the existing cap be used, if feasible.
- The existing copper gutters being refurbished and retained.
- New copper valleys being installed.

Historic District Site No. 212 – Addis Emmett Green House – 38201 W. Fourteen Mile Road

Site Overview

Built between 1854 and 1856 by Addis Emmett Green on land purchased for him by his father, Zephaniah Green, in 1853. Zephaniah and Zerilla Green, Addis Emmett's parents, were pioneer settlers of West Bloomfield; the family farm was across Fourteen Mile Road from the house Addis Emmett Green built.

Addis Emmett Green traveled to California after he was educated but returned to marry Adaline Smith of Novi. They settled in this house that he built for his bride. The house has been in the Green family for six (6) generations. It was probably originally a "Michigan Farmhouse" style with two enclosed staircases. The basic lumber is sawn. Extensive changes have been made to the house, including a second wing added as well as Gothic trim.

Certificate of Appropriateness 22-3

The Historic District Commission issued a Certificate of Appropriateness for the replacement of twelve (12) existing vinyl replacement windows with twelve (12) vinyl replacement windows of a similar style.

Historic District Site No. 15 – Botsford Inn – 27900 Grand River Avenue

Site Overview

Built in 1836 by Allen Weston, this Inn was used as a hotel and tavern. It was significant as the Sixteen Mile House when owned and run by Stephen Jennings on the Detroit to Howell Plank Road. Milton Botsford purchased the Inn in 1860 and gave it his name. In 1924 Henry Ford became owner of the Inn and did extensive restoration. He also moved the Inn back to make room for the widening of Grand River Avenue.

This Inn is listed in the National Registry of Historic Places and Michigan State Registry of Historical Places.

Certificate of Appropriateness 22-4

The Historic District Commission issued a Certificate of Appropriateness for the installation of ninety-four (94) new prefinished black wood shutters; repair of two (2) chimney top caps; removal and replacement of eighty (80) lineal feet of handrail on the second-floor balcony; and the preparation and repainting of the new railing, existing wood siding, existing wood columns, existing wood storm windows, prefinished shutters prior to installation, and existing sofit and facia.

Historic District Site No. 3 – Lemuel Botsford House – 24414 Farmington Road

Site Overview

Lemuel Botsford was a Connecticut farmer who came to Michigan in 1836. He moved to Farmington soon after; attracted by the Quaker community. The current house replaced a smaller structure that was on this property in 1837.

Lucy and Lemuel had ten children, several whom were prominent in the Farmington community. Rhonda Botsford married P.D. Warner. Milton Botsford became proprietor of the Botsford Inn. Orville was known for the fine horses he raised.

The Greek Revival house was located on a hill called Botsford Hill overlooking the Village of Farmington. Subsequent owners included John Pettibone of the pioneer Pettibone family. The 1837 house has had numerous additions including a bedroom wing added in the 1930's by Ralph Finneron, a Ford Motor Company executive.

This fine Greek Revival house is listed on the Michigan State Registry of Historical Places.

Certificate of Appropriateness 22-5

The Historic District Commission issued a Certificate of Appropriateness for the replacement of the asphalt shingle roof, aluminum gutters, and wood and plastic shutters with an asphalt shingle roof intended to simulate wood shake, new seamless aluminum gutters, and new wood shutters to include shutter dogs.

Historic District Site No. 6 – The Theron Murray House – 30943 Halsted Road

Site Overview

Built between 1833 and 1837 by Theron and Rebecca Murray, this Greek Revival house changed hands many times before Horace Green purchased it in 1863.

The house, like the barn, features hand-hewn framing construction, pegged together; some of the original woodwork is still visible.

The little pond on the property is part of the legendary Minnow Pond. When the Murrays, who were part of the prominent pioneer Welfare family of Commerce Township, left the Farmington property after four (4) years, they farmed in West Bloomfield.

Horace Green purchased the house in 1863. Horace was the grandson of Levi Green, a Revolutionary War veteran who is buried in North Farmington Cemetery with his wife, Asenath. Horace Green's parents were Zephaniah Ripley Green and his wife Zerilla Gould Green. The Zephaniah Greens came to West Bloomfield in 1832. Horace Green's wife was Mary Eliza Seeley. They farmed the property from 1863 to 1911.

This house is listed on the Michigan State Registry of Historical Places.

Certificate of Appropriateness 22-1A

The Historic District Commission issued a Certificate of Appropriateness for the installation of a generator in the south side yard.

Historic District Site No. 504 – Kirby White House – 24200 Farmington Road

Site Overview

Kirby and Alice White and their five children moved into this Federalist Revival House by 1928. Kirby White was general manager, vice-president and director of the Ferry-Morse Seed Company, which by the 1930's was the largest seed company in the United States.

The estate home was built for the Whites on five acres along Farmington Road and was designed by Marcus Burrowes who was a prominent architect in Detroit and Michigan. He designed public buildings for cities and houses for wealthy clients.

The Kirby White House has some unique architectural features. The house is supported by steel beams, unusual for houses dating from the 1920's. The Federalist-Revival style features many gables, arches and bays.

Kirby White died in June 1933 and the family moved from their country estate to Birmingham, Michigan. A series of owners for the lovely estate were executives of Ford Motor Company.

The Presbyterian Church purchased the property and house in 1956. The needs of the church for religious purposes caused the house to be moved a mile south on Farmington Road in 1993. It has been adapted to its new location and carefully maintained in the unique Federalist-Revival style architecture.

Certificate of Appropriateness 22-2A

The Historic District Commission issued a Certificate of Appropriateness for the removal of the existing asphalt shingle roof and replacement with a charcoal laminate/dimensional asphalt shingle roof.

Historic District Site No. 2 – John Garfield House – 35810 W. Thirteen Mile Road

Site Overview

This Greek Revival house with a Federalist influence was probably constructed between 1831 and 1838 by John Garfield. The outer portion has hand-hewn beams, and the inner basic beams are logs with bark still on them.

The house experienced extensive remodeling and modification over the years but has been restored to its original Federal-Greek Revival appearance.

The property at one time contained an orchard and a dairy farm. The barn, which has been remodeled into a home, is on neighboring property. A carriage house, to the east of the home, was moved here from its original location near the Botsford Inn.

The John Garfield House is on the Michigan State Registry of Historical Places.

Certificate of Appropriateness 22-3A

The Historic District Commission issued a Certificate of Appropriateness for the removal of the existing wood deck material and replacement with composite materials.

Certificate of Appropriateness 22-4A

The Historic District Commission issued a Certificate of Appropriateness for the installation of a generator in the rear yard.

Historic District Site No. 202 – Boorn-Halsted Cottage – 28325 Halsted Road

Site Overview

Built around 1830 by James Boorn and his wife, Olive Pettibone Boorn, this farm remained in the family for three generations.

James Boorn took out forty acres on the west side of today's Halsted Road and forty acres on the east side.

He was a cobbler, ran a slaughterhouse, and the farm. The Boorns' daughter, Hannah, married William Halsted.

William and Hannah's son, Harvey Halsted started growing fruit on the farm after the Civil War. When his children, Charles and James Halsted, farmed the property, they specialized in Steel Red Apples.

The house has been extensively remodeled. There is a Michigan stone wall along Halsted Road.

Certificate of Appropriateness 22-5A

The Historic District Commission issued a Certificate of Appropriateness for the replacement of the existing asphalt shingle roof with a similar asphalt shingle roof.

Selected Historic District Commission Activities in 2022

Cemetery Master Plan Implementation

Beginning in 2019, the Historic District Commission undertook leading the preservation of the two (2) City-owned cemeteries: Farmington West Cemetery and East Farmington (Utley) Cemetery.

The Master Plan developed by a Historic District Commission subcommittee is a multi-year, phased approach. The phases, which overlap, include documentation, cleanup of the landscape, cleaning of markers, and resetting and restoration of the markers.

Progress has been steady and includes both volunteer efforts and the engagement of professional services.

Throughout 2022, the Commission continued implementation of its Cemetery Master Plan. Commissioners, with the assistance of the City's Department of Public Works, Fenton Memorials, and volunteers, cleaned and reset monuments in East Farmington (Utley) Cemetery, including the resetting of larger, heavier monuments.

In October 2022, on two (2) separate occasions, Boy Scouts assisted Commissioners and volunteers with releveling smaller tombstones and touchup cleaning at East Farmington (Utley) and West Farmington Cemeteries.

Historic Resource Survey

In November 2022, a Historic District Commission subcommittee toured sections two (2) and eleven (11) of the City, with a focus on identifying noteworthy midcentury modern homes for potential inclusion in the Historic District. The subcommittee identified five (5) midcentury modern homes for further study and contacted each of the homeowners. The subcommittee is currently in communication with three (3) of the homeowners regarding their interest in potentially being added to the District.

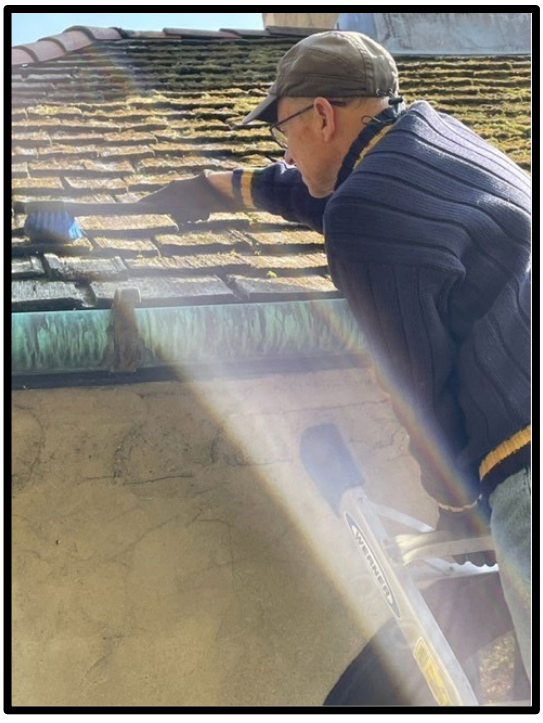
Botsford Inn Exterior Restoration

Throughout 2022, the Historic District Commission and City officials worked closely with the owners of the Botsford Inn regarding finding a use for the structure and restoration of several aspects of the exterior that have fallen into disrepair. Although discussions regarding potential future uses of the structure continue, thanks to the Commission's efforts, the owners have committed to restoration of key aspects of the exterior, including the shutters.

Spicer House Roof Replacement

In late 2022, the Historic District Commission worked closely with the City's Department of Special Services to find an appropriate solution for replacement of the Spicer House's aged cedar shake roof. A subcommittee of the Commission assessed the condition of the roof and explored various options from repair to complete replacement.

Ultimately, a compromise was found in which the roof is planned to be replaced with synthetic shakes, but the distinctive copper gutters, and potentially the terracotta ridge caps, are to be reused to maintain the distinct character of the roof to the extent possible.



POLICE SITUATIONAL AWARENESS TRAINING

LEGAL REVIEW

January 23, 2023

BACKGROUND

How did we get here?

BACKGROUND

How did we get here?

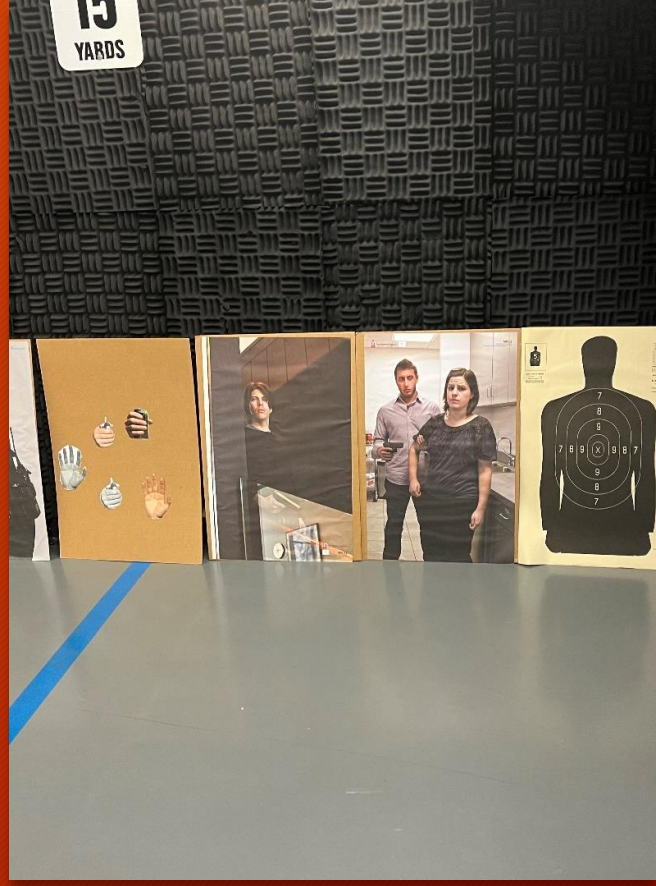
STATE STANDARDS & FHPD ACCREDITATIONS

**1 of 53 Michigan Law enforcement agencies that have participated and subsequently received accreditation (June 2018 & August 2021)*

STATE STANDARDS & FHPD ACCREDITATIONS

STATE STANDARDS & FHPD ACCREDITATIONS

- MCOLES' Approved Training Module (Non-Exhaustive List)
  - Demonstrated understanding of use of deadly force;
  - Properly assess a life threating situation;
  - Employ sound tactics during a response to a life -threatening situation;
  - Comply with departmental policies in situations involving deadly force



MERCOLES' APPROVED TARGETS

Deliberate
INDIFFERENCE

LEGAL CONSIDERATIONS

FINDINGS & RECOMMENDATIONS

Use of situational targets does not run afoul of the law

Use of situational targets may help insulate the City from a finding of “deliberate indifference”

FHPD should establish processes and procedures to consistently track and met out the presence of bias during situational training because when unchecked these biases can lead to racial profiling

Community perception of biased police behaviors must be addressed

Establish a Department-wied policy that ensures the removal of ALL targets at the conclusion of every internal firearms training

Development of and/or participation in Department-wide racial sensitivity training


Questions
?
?
Answers
?


thank you

REPORT FROM THE CITY MANAGER TO CITY COUNCIL – FEBRUARY 27, 2023

SUBJECT: AN ORDINANCE TO AMEND THE FARMINGTON HILLS CODE OF ORDINANCES TO AMEND CHAPTER 33, "WATER AND SEWERS," TO ADD DIVISION II "STORMWATER ENGINEERING DESIGN STANDARDS" TO ARTICLE IX, "STORMWATER MANAGEMENT", TO ADOPT AND ENACT STORMWATER ENGINEERING DESIGN STANDARDS DEVELOPED BY THE OAKLAND COUNTY WATER RESOURCE COMMISSIONERS' OFFICE.

Administrative Summary

- The City of Farmington Hills maintains a National Pollutant Discharge Elimination System (NPDES) Permit for its Municipal Separate Storm Sewer System (MS4) from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) as required by the US Environmental Protection Agency (EPA) and the Federal Clean Water Act.

- EGLE has indicated that the City and other MS4 permit holders in the State of Michigan are required to adopt an Ordinance regulating post construction storm water site design on public and private sites in order to comply with the updated requirements of the MS4 permit.

- The ordinance will identify engineering design requirements of storm water systems for private and public development. These requirements include water quality, storm water detention volume, water discharge or release rates, etc. The updated storm water standards were developed via a regional approach with Oakland, Macomb, Livingston, and Wayne Counties and were negotiated with EGLE to ensure uniform application throughout the region.

- EGLE has reviewed and approved of the Ordnance language and has indicated that adoption would meet MS4 permit requirements.

- The City Attorney has prepared the attached code amendment and staff is recommending adoption of the Ordinance language.

RECOMMENDATION

RESOLVE that City Council hereby approves the INTRODUCTION of an Ordinance amending the City Code, Chapter 33, to add Division II Stormwater Engineering Design Standards to Article IX, Stormwater Management.

Support Documentation

The City has maintained permit coverage for its municipal separate storm sewer system since the State of Michigan's program inception in 1999. The latest changes to the program rules indicate that MS4 permittees adopt an updated set of standards for post construction stormwater. These updated standards include requirements for water quality, specifically for infiltration of storm water runoff of the first 1.3 inches of rainfall to the maximum extent practicable. The updated standards only apply for sites proposing 1-acre or more of construction area disruption. Adoption of the Stormwater Engineering Design Standards ordinance will ensure permit compliance, as well as continued water quality and flood protection for the City's rivers and streams.

Prepared by: Tyler Sonoga, Civil/Environmental Engineer
Reviewed by: Karen Mondora, PE, Director of Public Services
Approval by: Gary Mekjian, PE, City Manager

ORDINANCE NO. C-_____-2023

CITY OF FARMINGTON HILLS
OAKLAND COUNTY, MICHIGAN

AN ORDINANCE TO AMEND CITY OF FARMINGTON HILLS CITY CODE, CHAPTER 33, WATER AND SEWERS, TO ADD DIVISION 2, STORMWATER ENGINEERING DESIGN STANDARDS TO ARTICLE IX, STORMWATER MANAGEMENT, TO ADOPT AND ENACT STORMWATER ENGINEERING DESIGN STANDARDS DEVELOPED BY THE OAKLAND COUNTY WATER RESOURCE COMMISSIONERS OFFICE FOR COMPLIANCE WITH THE CITY'S PART 31, MS4 GENERAL PERMIT, WATER RESOURCES PROTECTION IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT, 1994 PA 451, AS AMENDED AND THE CITY'S MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES & ENERGY (MDEGLE), WASTEWATER DISCHARGE PERMIT, RULE 323.2161A, POST-CONSTRUCTION REQUIREMENTS.

THE CITY OF FARMINGTON HILLS ORDAINS:

Section 1 of Ordinance. Ordinance Amendment.

The Farmington Hills City Code, Chapter 33, "Water and Sewers," is hereby amended to add Division 2, "Stormwater Engineering Design Standards," to Article IX, "Stormwater Management," to read as follows:

ARTICLE IX. STORMWATER MANAGEMENT

DIVISION 2. STORMWATER ENGINEERING DESIGN STANDARDS

Sec. 33-320. Adoption of Stormwater Engineering Design Standards

(a) The City of Farmington Hills hereby adopts Section I of the Stormwater Engineering Design Standards developed by the Oakland County Water Resources Commissioner, as amended, as set forth in **Appendix B** to this Code.

(b) Variances from the Channel Protection Performance standards may only be considered by the City in accordance with the alternative standard provided by the Michigan Department of Environment, Great Lakes, and Energy Stormwater Permit dated June 24, 2021, as set forth in Part I, Section A.3.f.1.b).

Sec. 33-321. Amendments, additions, and deletions.

The following provisions of the Stormwater Engineering Design Standards are amended, added or deleted as follows:

(a) All references throughout the Stormwater Engineering Design Standards to "OCWRC" or "County" shall mean and refer to "the City of Farmington Hills."

(b) Part B: Authority is hereby amended to state:

The City will apply these standards within its legal authority and jurisdiction as outlined in the following regulations:

1. Part 31, MS4 General Permit, Water Resources Protection, Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

2. MDEGLE Wastewater Discharge Permit, Rule 323.2161a, Post-Construction Requirements.

3. Section 6.1 of the City of Farmington Hills Zoning Ordinance, Site Plan Review.

(c) References to "Non-County Stormwater Systems" in Part H shall mean and refer to "Privately-Owned Stormwater Systems within the City."

Section 2 of Ordinance. Repealer.

All ordinances, parts of ordinances, or sections of the City Code in conflict with this ordinance are repealed only to the extent necessary to give this ordinance full force and effect, and the Farmington Hills Ordinance Code shall remain in full force and effect, amended only as specified above.

Section 3 of Ordinance. Savings.

The amendments of the Farmington Hills Code of Ordinances set forth in this ordinance do not affect or impair any act done, offense committed, or right accruing, accrued, or acquired or liability, penalty, forfeiture or punishment, pending or incurred prior to the amendments of the Farmington Hills Code of Ordinances set forth in this ordinance.

Section 4 of Ordinance. Severability.

If any section, clause or provision of this ordinance shall be declared to be unconstitutional, void, illegal or ineffective by any court of competent jurisdiction, the validity of the ordinance as a whole, or in part, shall not be affected other than the part

invalidated, and such section, clause or provision declared to be unconstitutional, void or illegal shall thereby cease to be a part of this Ordinance, but the remainder of this ordinance shall stand and be in full force and effect.

Section 5 of Ordinance. Effective Date.

The provisions of this ordinance are ordered to take effect twenty-one (21) days after enactment.

Section 6 of Ordinance. Date and Publication.

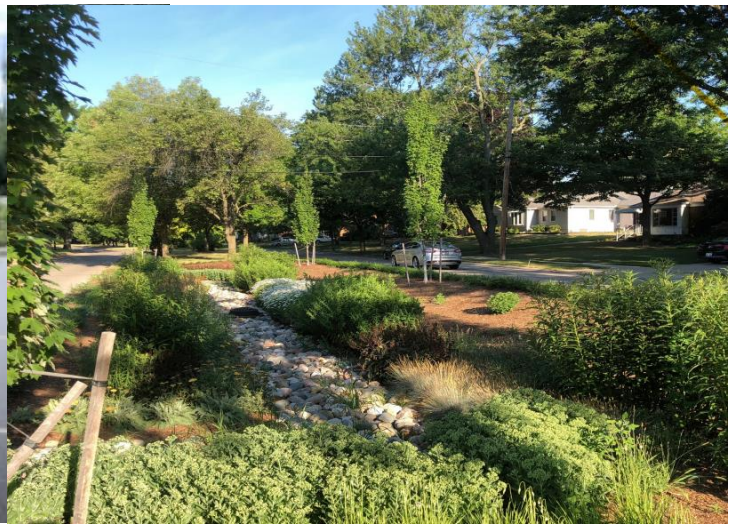
This ordinance is declared to have been enacted by the City Council of the City of Farmington Hills at a meeting called and held on the ____ day of _____, 2023, and ordered to be given publication in the manner prescribed by law.

Ayes:
Nays:
Abstentions:
Absent:

STATE OF MICHIGAN)
) ss.
COUNTY OF OAKLAND)

I, the undersigned, the qualified and acting City Clerk of the City of Farmington Hills, Oakland County, Michigan, do certify that the foregoing is a true and complete copy of the Ordinance adopted by the City Council of the City of Farmington Hills at a meeting held on the _____ day of _____, 2023, the original of which is on file in my office.

_____
PAMELA B. SMITH, City Clerk
City of Farmington Hills



WRC
WATER RESOURCES COMMISSIONER
Jim Nash

OAKLAND COUNTY
WATER RESOURCES COMMISSIONER

Stormwater Engineering Design Standards

Requirements, Rules, and Design Criteria for Stormwater Management

11/22/2021

Table of Contents

Section I - Oakland County Stormwater Standards

Part A: Standards

The Environmental Protection Agency (EPA) through the Michigan Department of Environment, Great Lakes, and Energy (EGLE) requires the County of Oakland and other regulated entities to comply with the National Pollutant Discharge Elimination System (NPDES) Phase II Municipal Separate Storm Sewer System (MS4) permit requirements. The purpose of these standards is to address Post-Construction Stormwater Runoff Controls required under this permit.

These standards are a result of ongoing regional collaboration between Oakland, Wayne, Macomb and Livingston Counties with the following overall objectives:

1. Provide a comprehensive framework for managing stormwater that addresses surface water quality, channel and infrastructure protection, localized flood control and long-term operations and maintenance.
2. Incorporate design standards that control both the quantity and quality of stormwater runoff.
3. Require volume reducing Low Impact Development (LID) design measures, or Best Management Practices (BMPs), such as infiltration, preservation of natural areas, enhanced vegetation and reduced imperviousness to control runoff volume to the Maximum Extent Practicable (MEP).
4. Strengthen the protection of natural features.
5. Protect public health, safety and welfare.
6. Promote economic development using straightforward and uniform drainage standards for site development throughout Oakland County, as well as across Southeast Michigan.
7. Provide guidelines and additional resources for the selection of effective structural and vegetative stormwater BMPs for development sites.
8. Enhance the sustainability of stormwater management practices in Oakland County including performance, longevity, safety, maintenance, community acceptance, and environmental benefits.
9. Establish a framework to increase the likelihood of long-term operation and maintenance of the stormwater management practices.
10. Use the most currently published, relevant rainfall statistics.
11. Promote a consistent design process by using a set of simple equations to determine runoff rates, detention volumes, water quality treatment and infiltration requirements.

WRC's Stormwater Rules address water quality, volume, and flood control. Section I includes an overview of the rules, including key equations used to demonstrate compliance with the standards.

Part B: Authority

The Oakland County Water Resources Commissioner's (WRC) office will apply these standards within its legal authority and jurisdiction as outlined in the following regulations:

1. The Subdivision Control Act, Act 288 of the Public Acts of Michigan of 1967, as amended.
2. The Michigan Drain Code, Public Act 40 of 1956, as amended.
3. The Mobile Home Commission Act, Act 96 of the Public Acts of Michigan of 1987, as amended.
4. Part 31, MS4 General Permit, Water Resources Protection, Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Oakland County's MS4 permit covers regulated county stormwater systems under the jurisdiction of the OCWRC office (direct discharges to County Drains), the Oakland County Parks and Recreation Commission and the County of Oakland. The Road Commission for Oakland County should be contacted for applicable standards within their stormwater jurisdiction.
5. EGLE Wastewater Discharge Permit, Rule 323.2161a, Post-Construction Requirements.

To promote consistent regional site development stormwater practices, communities and other entities responsible for the management of stormwater systems and MS4 permit compliance are encouraged to adopt these standards. Additionally, communities that operate combined sewer systems and are party to CSO permit compliance are also encouraged to adopt these standards. Local municipalities may elect more restrictive standards and when conflicting standards arise, the more stringent requirements shall govern. These standards establish minimum requirements for the design, construction and maintenance of stormwater systems for subdivisions, site condominiums, commercial, industrial and other development and redevelopment projects.

All construction activity within the WRC's stormwater permitting authority will be reviewed by the WRC's Permitting Department to determine if the activity is regulated. The WRC's office will use the following applicability criteria to assist in making this determination and to clarify which stormwater standards apply to the proposed construction activity.

These rules were developed in close coordination with Wayne, Macomb, and Livingston Counties, as well as the City of Detroit. This provides a generally consistent set of standards across Metro Detroit.

Part C: Applicability

These standards shall apply to development and redevelopment projects with construction activity greater than or equal to 1 acre, or part of a common plan of development resulting in a development or redevelopment activity greater than or equal to 1 acre in size, including without limitation, clearing, grading, excavating, construction and paving, that results in an earth change or disturbance in the existing cover or topography of land, including any external demolition, modification, or alteration of a site or the footprint of a building.

Common exemptions to these stormwater standards include the following:

1. Resurfacing of an asphalt, concrete, or similar surface (i.e., 'mill and fill') that does not expose the aggregate or subgrade or result in replacement of the onsite drainage system.
2. The practices of clearing, plowing, and tilling soil and harvesting for the purpose of crop production.
3. The project does not meet the development or redevelopment criteria in this standard.
4. The development or redevelopment project construction activity is less than 1.0 acre.
5. The development or redevelopment project is for one single family detached dwelling that is not part of a common plan of development.
6. The development or redevelopment project is for emergency maintenance and work performed to protect public health and safety.
7. The development or redevelopment project discharges solely to a RCOC stormwater system or right-of-way. Contact the RCOC permit staff at the Road Commission for Oakland County Official Website (rcocweb.org) for RCOC-specific stormwater requirements.
8. Other exemptions listed herein or approved by the OCWRC office.

These rules apply to development within WRC's stormwater jurisdiction & MS4 permit jurisdiction.

At the community's discretion, they can also adopt these rules to meet their stormwater & MS4 permit needs.

To protect all water resources under WRC stormwater jurisdiction, WRC requires applicable standards to be implemented for development and redevelopment projects located both inside and outside the Regulated MS4 Area. Similarly, to protect all water resources under WRC stormwater jurisdiction, WRC requires applicable standards to be implemented for development and redevelopment projects regardless of whether they discharge stormwater to a MS4 or not.

The WRC office continues to collaborate with the George W. Kuhn Combined Sewer District communities in adopting Post-Construction stormwater standards to meet its Combined Sewer System NPDES permit requirements. Many of these communities have both separate and combined systems and the goal is to adopt similar Post-Construction standards that meet local and regional needs for both types of systems. Currently, the standards outlined herein are encouraged to be used in the GWK combined district; collaboration continues with a goal of adoption of these standards in both MS4 and combined sewer communities.

These standards supersede all previous versions and revisions, and updates will be available on the WRC's website (www.oakgov.com/water) including registration information to receive revisions and updates to these standards as they become available. These standards are intended to be a living document and updated as necessary to reflect ongoing changes in climate and regulatory conditions. Before submitting a site plan for stormwater permitting, please refer to the WRC website above for the most recent version of the standards.

Part D: Channel Protection Volume Control

Channel Protection Volume Control (CPVC) is necessary to protect natural watercourses from increased erosion and sedimentation as a result of increased imperviousness and runoff volume as development occurs. CPVC also promotes groundwater recharge, stabilizes flow rates and baseflow in our natural watercourses, and addresses water quality control criteria (Total Suspended Solids).

CPVC shall be implemented to the Maximum Extent Practicable (MEP). The required Channel Protection Volume (V_{CP-R}) is the post-development site runoff volume from a 1.3-inch rainfall event.

The following CPVC implementation process is summarized in Appendix A (Channel Protection Flowchart).

The Channel Protection Volume Control (CPVC) volume is intended to control runoff volume under post-development conditions for a 1.3-inch rainfall event

1. Implement land use practices that limit the increase in runoff volume, such as LID practices including (but not limited to) a design emphasis on naturalized areas (i.e., meadow or wooded areas vs. turf grass), reduced impervious coverage, etc.

2. Calculate the required Channel Protection Volume using the following equation:

Eq. I-1	$V_{CP-R} = 4{,}719\ x\ C\ x\ A$
C =	Post-development runoff coefficient
A =	Contributing area in acres
V_{CP-R} =	Required CPVC volume in cubic feet

3. Provide adequate infiltration and/or storage/reuse BMPs, to the MEP, to provide the calculated CPVC volume. This may include (but is not limited to) bioretention, rain gardens, bio-swales, pervious pavement, cisterns, green roofs, and infiltration trenches. For water reuse BMPs (i.e., cisterns), water demand (such as gray water or irrigation water) must be established and documented to show adequate drawdown times.

   a. When the measured in-situ infiltration rate is above 0.5 in/hr., supplemental measures, such as subsoil amendments and/or a perforated underdrain system, are not required.

   b. When the measured in-situ infiltration rate is between 0.24 in/hr. and 0.5 in/hr., soils are marginally suitable for infiltration BMPs, and supplemental measures are required. Supplemental measures may include subsoil amendment, or an underdrain located at the top of the storage bed layer to maximize infiltration.

c. When the measured in-situ infiltration rate is less than 0.24 in/hr., infiltration is deemed impractical, and the use of this BMP is therefore waived. When infiltration is waived, other volume-reducing LID practices must be implemented to the MEP.

d. Infiltration BMPs shall completely dewater in less than 72 hours, consisting of 24-hour dewatering for the surface volume, and 48-hour dewatering of the void space (soil storage) volume. Water storage/reuse BMPs shall also be designed to fully dewater within 72 hours.

4. Pretreatment is required for all BMPs to remove fine sediment, trash, and debris to preserve the longevity and function of the BMPs.

a. Common methods of BMP pretreatment include mechanical separators, sediment forebays, vegetated filter strips, vegetated swales, constructed filters, and curb cuts with sediment traps.

5. To incentivize and encourage stormwater infiltration on all sites, the *provided* Channel Protection Volume, (V_{CP-P}) can be subtracted from the required 100-year detention volume, V_{100D} (see equations in Part G below). Upon subtracting the provided Channel Protection Volume from the required 100-year detention volume, the resulting volume cannot be less than the Extended Detention Volume (V_{ED}, see Part E below).

Channel Protection Volume Control (infiltration) is required when the measured in-situ infiltration rate is ≥ 0.24 inches/hour and groundwater is at least 2 feet below the bottom layer of the proposed BMP

For underground infiltration BMPs that are not easily accessible for inspection and maintenance, such as underground detention system infiltration, this Channel Protection Volume is generally not credited and will be evaluated on a case-by-case basis by the OCWRC's office.

Infiltration BMPs are prohibited in areas containing contaminated soils/groundwater, wellhead protection areas, high seasonal groundwater (less than 2 feet from the bottom of the stone storage layer of the infiltration BMP to the seasonally high groundwater table) and in areas with hotspot activities and setback restrictions (foundations, property lines, drinking wells, septic fields, pavement, etc.) as defined in the standards. When any of the above adverse conditions are demonstrated, other volume-reducing LID practices must be implemented to the MEP.

Part E: Channel Protection Rate Control: Extended Detention

Channel Protection Rate Control (CPRC) is necessary to protect natural watercourses from increased erosion and sedimentation as a result of increased imperviousness and runoff rates as development occurs. Channel protection rate control is based on a 2-year / 24-hour storm event. The CPRC shall be implemented to the MEP as outlined below.

1. Extended Detention is required for the site's post-development runoff volume from a 1.9-inch rainfall event. This Extended Detention Volume (V_{ED}) shall be dewatered in not less than 48 hours.
2. Calculate the required Extended Detention Volume using the following equation:

Eq. I-2	$V_{ED} = 6{,}897\ x\ C\ x\ A$
C =	Post-development runoff coefficient
A =	Contributing area in acres
V_{ED} =	Required Extended Detention Volume in cubic feet

3. The Extended Detention requirement effectively maintains the 2-year pre-settlement peak flow rates, to the MEP, for new developments and reduces the existing 2-year peak flow rates for redevelopments.

Part F: Water Quality Control

Water Quality Control (WQC) focuses on limiting the concentration of Total Suspended Solids (TSS) in post-development runoff to either of the following water quality standards: 80 mg/L, or 80% TSS reduction. WQC shall be implemented to the MEP as outlined below.

WQC can be achieved one of several ways:

1. Infiltration (i.e., runoff volume-reducing) or water reuse BMPs that achieve the required Channel Protection Volume (V_{CP-R}, see Part D) meet the TSS requirements for only areas tributary to an infiltration BMP. If any areas on a site plan bypass infiltration BMPs, those areas must receive alternative TSS treatment (see below for other options).

2. Mechanical separators designed for the required TSS removal at a peak flow rate (Q_{WQ}) generated by a 1-year peak flow as calculated below:

Eq. I-3	$Q_{WQ} = C\ x\ I_1 x\ A$
Q_{WQ} =	Peak flow rate for mechanical separator design in cfs
C =	Post-development runoff coefficient
I_1 =	Rainfall intensity in inches/hour
A =	Contributing area in acres

Eq. I-4	$I_1 = \frac{30.20}{(T_C\ +\ 9.17)^{0.81}}$
I_1 =	Rainfall intensity in in/hr
T_C =	Time of Concentration (minutes)

3. Sediment forebay(s), when combined with downstream Extended Detention. Forebays shall be designed with a volume equal to 15% of the Water Quality Volume (0.15 x V_{WQ}) and capture heavy sediment at inlet pipe locations. Access shall be provided to accommodate sediment removal equipment. The required sediment forebay volume, V_F, is calculated below:

Eq. I-5	$V_F = 0.15V_{WQ} =\ 545\ x\ C\ x\ A$
C =	Post-development runoff coefficient
A =	Contributing area in acres
V_{WQ} =	Required Water Quality Volume in cubic feet

4. The following treatment methods are effective at meeting the OCWRC water quality requirements:
   a. Bioretention BMPs (infiltration), discharging to a conventional detention basin* (wet or dry)
   b. Mechanical separator(s), discharging to a conventional detention basin* (wet or dry)
   c. Sediment forebay(s), discharging to a conventional detention basin* (wet or dry)

   * *Conventional detention basins include hydraulic controls for both V_{ED} and V_{100D}*

Part G: Detention & Flood Control

Detention and flood control is a critical component in stormwater design as it helps to prevent excess peak flows and reduces the likelihood of flooding downstream of a development site. The regional collaboration has resulted in the following Detention and Flood Control standards.

Detention and Flood Control shall be implemented to manage the ***100-year peak runoff rate*** for developed sites as outlined below. The allowable 100-year post-development peak flow rate (Q_{100P}) shall be approved by the WRC office on a case-by-case basis and will be calculated one of two ways:

1. Using the Variable Release Rate (see equations below)
2. County-determined peak flow rate based on a documented County Drain flow capacity or other known downstream capacity limitations (flow rate provided in cfs/acre)

WRC (or any local review authority) reserves the right to set a specific discharge rate that is below the Variable Release Rate where outlet capacity is restricted

Prior to commencing with site plan design, please contact the WRC Permitting Department to confirm which of the above methods are more restrictive and will apply to your site. The chosen method to determine the 100-year post-development peak flow rate can have a significant impact on required detention pond volume.

The Variable Release Rate and corresponding post-development peak flow rate are calculated as follows:

Eq. I-6	$Q_{VRR} = 1.1055 - 0.206\ln(A)$
Q_{VRR} =	Allowable release rate in cfs/acre
A =	Contributing area in acres
	The variable release rate (cfs/acre) is capped at 1.0 cfs/acre for developments 2 acres or less. For all developments equal to or greater than 100 acres, the variable release rate is 0.15 cfs/acre.

Eq. I-7	$Q_{100P} = Q_{VRR}\ x\ A$
Q_{100P} =	Allowable 100-year post-development peak flow rate in cfs
A =	Contributing area in acres

If downstream capacity is insufficient for the proposed development, the developer can make improvements that may include construction of additional off-site conveyance capacity, improvements to the existing drain, acquisition of easements from downstream property owners, etc. The developer is responsible for securing all necessary easement(s) from downstream property owners and is responsible for all improvement costs.

All stormwater discharges from the proposed development site shall outlet within the watershed where the flows originated, unless approval is obtained from the WRC's office. Offsite runoff shall bypass the proposed site's stormwater system. If this cannot be achieved, detailed hydrologic and hydraulic calculations shall be provided to the WRC office to demonstrate that no adverse impacts will occur downstream from the 10-year and 100-year storm events.

When calculating the required detention volume, all on-site contributing drainage areas shall be used in the calculation. Volume stored within the forebay and extended detention area may be applied towards the required detention volume. Please refer to Appendix C for typical detention basin profiles and stormwater design calculations.

The required 100-year detention volume (V_{100D}) is calculated as follows:

1. Calculate the total 100-year runoff volume (V_{100R}) under post-development conditions:

Eq. I-8	$V_{100R} = 18{,}985\ x\ C\ x\ A$
C =	Post-development runoff coefficient
A =	Contributing area in acres
V_{100R} =	Post-development 100-year runoff volume in cubic feet

2. Calculate the 100-year peak inflow rate, Q_{100IN}, into the detention basin; this is the post-development peak instantaneous flow prior to (upstream of) the detention basin:

Eq. I-9	$Q_{100IN} = C\ x\ I_{100}\ x\ A$
Q_{100IN} =	100-year post-development peak inflow rate in cfs
C =	Post-development runoff coefficient
I_{100} =	100-year peak rainfall intensity in inches/hour
A =	Contributing area in acres

3. Calculate the Storage Curve Factor for the 100-year detention volume (R):

Eq. I-10	$R = \left[0.206 - 0.15 \ln\left(\frac{Q_{100P}}{Q_{100IN}}\right)\right]$
R =	Storage Curve Factor (dimensionless)
Q_{100P} =	100-year post-development peak flow rate in cfs
Q_{100IN} =	100-year post-development peak inflow rate in cfs

4. Finally, calculate the 100-year detention basin size, identifying any credits to the detention basin volume to reflect the provided Channel Protection Volume (V_{CP-P}))

Eq. I-11	$V_{100D} = (V_{100R}\ x\ R) - V_{CP-P}$
V_{100D} =	Required 100-yr detention volume in cubic feet
V_{100R} =	100-year runoff volume in cubic feet
R =	Storage Curve Factor (dimensionless)
V_{CP-P} =	**Provided** CVPC volume in cubic feet
	KEY RULE: $V_{100D} \geq V_{ED}$

Check to verify the adjusted 100-year detention basin volume is equal to or greater than the Extended Detention Volume (V_{ED}). Under no circumstances shall the adjusted detention basin volume be less than V_{ED}.

Part H: Operations and Maintenance

Long-term Operations and Maintenance (O&M) Plans are required for County Stormwater Systems and Non-County Stormwater Systems and are summarized below. To facilitate routine inspections, all O&M requirements and documents listed below shall be incorporated into the plan set on dedicated O&M-specific plan sheets. When O&M responsibilities or requirements are modified or updated, the respective O&M Plan sheet(s) shall be updated accordingly.

County Stormwater Systems

The following MS4 Permit O&M requirements apply to all regulated County Stormwater Systems owned, operated and maintained by the WRC's office, the Oakland County Parks and Recreation Commission and the County of Oakland, hereafter referred to as County Departments:

1. Prior to the start of any development or redevelopment activity meeting the criteria defined in Part C: Applicability, the County Department shall obtain a Drain Permit from the WRC's Permitting Department. Coordination with the WRC's Permitting Department is recommended at the conceptual stage of development projects to ensure that permit requirements are clearly identified early in the planning process.

2. To ensure consistent perpetual O&M of the site's stormwater system and to enhance water quality protection, prior to Drain Permit issuance, the WRC's Permitting Department shall review and approve the County Department's site-specific Stormwater Management O&M Plan with the following requirements:

   a. Purpose of the plan.

   b. Drainage area description and details.

   c. Description of the stormwater system and its individual components.

   d. Specific short-term, intermediate and long-term maintenance tasks.

   e. Inspection and maintenance tasks, frequencies and responsibilities.

   f. Employee and contractor training requirements and responsibilities.

   g. Approved construction drawings including stormwater calculations, details, elevations and a location map, etc.

   h. Approved O&M Plan sheet(s) to facilitate routine O&M inspections.

   i. County Departments shall submit an Annual Stormwater System O&M Summary, for their stormwater systems, to the WRC's Environmental Department for County MS4 permit

Maintaining stormwater systems is critical for ensuring they meet ongoing water quality and flood control needs. Individual County Departments are responsible for completing all (perpetual) O&M tasks and for maintaining detailed O&M tracking records for their stormwater systems.

reporting. Individual County Departments are responsible for completing all O&M tasks and for maintaining detailed O&M tracking records for their stormwater systems.

Non-County Stormwater Systems

The following MS4 Permit O&M requirements apply to all regulated Non-County Stormwater Systems owned, operated and maintained by others, which directly connect to a County Stormwater System:

1. Prior to the start of any development activity meeting the site applicability criteria defined in Part C: Applicability, a Drain Permit shall be obtained from the WRC's Permitting Department. Coordination with the WRC's Permitting Department is recommended at the conceptual stage of development projects to ensure that permit requirements are clearly identified early in the planning process.
2. To ensure consistent perpetual O&M of the site's stormwater system and to enhance water quality protection, prior to Drain Permit issuance, the WRC's Permitting Department shall review and approve the site-specific Stormwater Management O&M Agreement between the community and property owner. A fully executed Stormwater Management O&M Agreement is required prior to issuance of the Drain Permit. This agreement shall consist of the following requirements which will be incorporated into the O&M Plan sheet(s):
    a. Legal Description: A legal description and reduced copy map to identify the land parcel(s) affected by this Agreement. This map shall be prepared for each site and must include a reference to a Subdivision Plat, parcel survey, or Condominium Master Deed, and a map to illustrate the affected parcel(s).

    The community is responsible for enforcement of the O&M requirements as outlined in the Stormwater Management O&M Agreement and their MS4 permit.

    b. Stormwater System Description and Map: A location map of the entire stormwater system. This map must be prepared for each site and the scale of the map shall show necessary detail.
    c. Stormwater O&M Plan Sheet(s): The site-specific Stormwater O&M Plan shall include the following requirements:
        - Description of the stormwater system, drainage area, and its individual components.
        - Specific short-term, intermediate and long-term maintenance tasks.
        - Inspection and maintenance tasks, frequencies and responsibilities (matrix/table).
        - Employee and contractor O&M training requirements, certifications, and responsibilities.
        - BMP Details
        - Property owners are responsible for completing all O&M tasks and maintaining O&M records for their stormwater systems. Upon request, property owners shall submit an Annual Stormwater System O&M Summary to OCWRC's Permitting Department for

tracking only. The community is responsible for enforcement of the O&M requirements as outlined in the Stormwater Management O&M Agreement and their MS4 permit.

d. Memorandum of Stormwater Management Operations and Maintenance Agreement: This O&M Memorandum acknowledges a perpetual requirement of stormwater system operations and maintenance, which is recorded with the Register of Deeds to put any future property owners, or interest holders, on notice of the Stormwater System and the Stormwater O&M Plan. This O&M Memorandum references the required Stormwater Management O&M Agreement, which resides with the local community to ensure consistency and periodic updates as necessary. A copy of the recorded document shall be submitted to OCWRC prior to closure of the Drain Permit.

Appendix G-Stormwater Management O & M Agreement is an approved "example" agreement. However, the WRC office recognizes that community-specific O & M agreements, ordinances and programs may also be proposed and submitted to the WRC for approval. When developing alternative O & M programs for consideration, the community should reference EGLE'S Post-Construction Stormwater Runoff Controls Program Compliance Assistance Document (available on EGLE's website) and their MS$ permit.

Part I: Stormwater Tracking & Mapping

Collecting data on site runoff characteristics is critical for WRC and the local review jurisdiction (if applicable) to meet ongoing EGLE permit requirements. This will be accomplished with a ***Land Use Summary Table***, which must be included on the O&M Plan Sheet of each submitted site plan (see table below). Additionally, GIS-based site data (in the form of a shapefile) will be required as a condition of site plan approval. GIS data will be limited to key stormwater components that will require future inspection and maintenance.

Land Use Summary

must be included on the O&M Plan Sheet for all site plans

	Characteristic	Existing Conditions	Proposed Conditions
Land Use Data	**Total Development Area (ac)**		
	Impervious Area (ac)		
	Total Pervious Area (ac)		
	Pervious Area Breakdown by Cover Type		
Pervious Area			
	Meadow/fallow/natural areas (non-cultivated)	x.xx acres	x.xx acres
	Predominant NRCS Soil Type (A, B, C, or D)		
	Improved areas (turf grass, landscape, row crops)	x.xx acres	x.xx acres
	Predominant NRCS Soil Type (A, B, C, or D)		
	Wooded Areas	x.xx acres	x.xx acres
	Predominant NRCS Soil Type (A, B, C, or D)		
	CPVC Volume ***Calculated*** (cubic feet)		
	CPVC Volume ***Provided*** (cubic feet)		
	CPRC Volume Provided (cubic feet)		

The Professional Engineer who signs and seals this site plan certifies that the values in this table reflect the WRC stormwater calculations required for this development and that geotechnical investigations were performed that provide conclusive documentation that demonstrates whether infiltration (i.e., CPVC Volume Control) is practicable.

Notes:

- *The Professional Engineer Certification Statement (see above) must be included with the Land Use Summary Table.*
- *Areas to be shown to the nearest 0.01 acre*
- *'Predominant' soil type shall the soil type with the largest percentage coverage over the designated land use (e.g., 70% Soil Type B and 30% Soil Type C shall be listed in the table as "Soil Type B")*
- *USDA soil types cannot be used to determine site suitability for infiltration and meeting the CPVC volume standard; direct infiltration testing will be required to determine site suitability for infiltration*

- *If CPVC requirement is waived, enter ZERO for the 'CPVC Volume Provided'*
- *When more than one soil type exists in one area, assign the predominant soil type for that area*
- *Use NRCS/USDA Online Soil Survey Map to determine soil type (A, B, C, or D):*

  https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

In addition to the Land Use Summary table, the applicant must include the following stormwater system information in the submittal:

1. Project name
2. Project location
3. City / Township / Village name
4. Applicant name and contact information
5. Engineer and owner names, including contact information
6. Description of work and other relevant information
7. ***Stormwater Design Narrative*** (separate document), consisting of the following minimum components:
   a. Summary of the proposed stormwater management system
   b. Geotechnical investigations (e.g., soil borings, infiltration tests, and/or an Environmental Site Assessment)
      i. *NOTE: the stormwater review cannot be approved without the submittal of in-situ soil characteristics and/or evidence of existing soil contamination; this information is necessary to determine whether the Channel Protection Volume Control standard will be required.*
   c. All stormwater calculations, including a list of all assumptions, site characteristics, and other information to support the calculations.
   d. If mechanical separators are to be used, attach the NJDEP certification letter including all NJDEP unit sizing and TSS removal efficiencies.
   e. Figures/schematics of the stormwater management system, including clear references to existing wetlands, floodplains, woodlands or other protected natural features.
   f. Outlet hydraulic calculations, including (if requested by the WRC) calculations and certifications for the hydraulic capacity of the receiving system.
   g. Operations & Maintenance (O&M) Plan for all proposed stormwater components (collection system, water quality treatment, infiltration, extended detention, and flood control) shall be included on the O&M Plan sheet(s).
8. Construction plans developed in accordance with WRC requirements
9. Executed Stormwater Management O&M Agreement
10. Recorded Memorandum of Stormwater Management O&M Agreement

A stormwater report (narrative) is a required component of each site plan submittal; a concise and well-organized report will help to expedite the site plan review process

A final component of the site plan review process is the submittal of a GIS shapefile containing, at a minimum, the layers listed below, which consist of points and polygons that reflect the key components of the stormwater system. This information will be provided only after the technical review is completed. The GIS shapefile must reflect the final approved design and include the following layers (use the layer naming conventions listed below for ease of storing and tracking the GIS data):

1. Development Site – Area (ac), GIS area **polygon** (DSA-1, DSA-X)
    a. This area should reflect the entire area for which the stormwater system is designed
2. Site Discharge Point(s), GIS **points** (D-1, D-2, etc.)
    a. These points should reflect the location of each site discharge point; this is typically the point of connection to a County Drain, city storm sewer, or other drainage feature downstream of the detention basin discharge structure
3. Dry Detention Basins, GIS area (ac) **polygons** (DBASIN-1, etc.)
    a. The polygon should reflect the detention basin footprint up to and including the berm and any associated maintenance buffer
4. Wet Detention Basins, GIS area (ac) **polygons** (WBASIN-1, etc.)
    a. The polygon should reflect the detention basin footprint up to and including the berm and any associated maintenance buffer
5. Retention Basins (no outlet), GIS area (ac) **polygons** (RBASIN-1, etc.)
    a. The polygon should reflect the detention basin footprint up to and including the berm and any associated maintenance buffer
6. Sediment Forebays, GIS area (ac) **polygons** (Forebay-1, etc.)
    a. The polygon should reflect the detention basin footprint up to and including the berm and any associated maintenance buffer
7. Mechanical Separators, GIS **points** (MS-1, etc.)
    a. The points can be placed at a maintenance access point for each structure. If multiple mechanical separator units are proposed, create a point for each unit.
8. Bioretention/Bioswales – GIS area (ac), GIS **polygons** (BR-1, etc.)
    a. The polygon should reflect the bioretention/bioswale footprint including any maintenance or safety buffers
9. Porous Pavement – GIS area (ac), GIS **polygons** (PP-1, etc.)
10. Cisterns/Rain Barrels, GIS **points** (RB-1, etc.)

Section II – Submittal and Review Procedures

Part A: General Requirements

Introduction

The general standards set forth are applied by this office for the review of the following:

1. Subdivisions being established under Act 288 of the Public Acts of 1967.
2. Mobile home plans prepared under P.A. 96 of 1987.
3. Applications for permits to discharge to a County Drain under P.A. 40 of 1956, as amended.
4. Review of stormwater system plans in other classes of developments or re-developments, when requested by local governments.
5. Review of developments being established as Chapter 18 County Drains.

Pre-Application Meeting

The pre-application meeting is a recommended step (not required) for the design and construction of a site that is covered under these standards. There are no fees required for the pre-application meeting.

The purpose of the pre-application meeting is to discuss the WRC standard requirements, existing site characteristics, identify existing in-situ soil conditions (which will determine whether infiltration will be required), Best Management Practices (BMPs) proposed for use on the site, long-term maintenance needs, and the capacity of the stormwater outlet. At this meeting, WRC staff will also confirm whether the development/redevelopment is within a drainage system that has a restricted outlet. This will determine the methodology that shall be used for determining the allowable peak discharge rate. This meeting may allow for a faster, more cost-effective site design by identifying the stormwater management issues early in the design process.

The Property Owner/Applicant will provide the following general information about the proposed development site for review during the meeting with WRC staff:

1. General Site Description / Site Plan
2. Topography
3. Land cover
4. Known environmental concerns (e.g. contaminated soils, “Due Care” Plan)
5. Location of and characteristics of environmental features, including wetlands, undrained areas, woodland areas, etc.
6. Soil types - (Soil survey with USDA NRCS soil group classifications, well/septic records and, if available, soil borings)
7. Potential locations for infiltration BMPs
8. Site environmental history (i.e., Phase 1 ESA)

Electronic Submission of Application and Plans

All Application submittals involving a County owned or operated Drain/Watermain/Sanitary Sewer/Soil Erosion must be made electronically to the WRC Office via our interactive EnerGov Permit Portal. Please refer to **Appendix J**-EnerGov Citizen Self-Service Portal User Guide.

1. You will first need to log into the WRC EnerGov site and register as a user to be able to submit an Application for review and approval.
2. Applications must be submitted by System and/or Property owners or their designated representatives.
3. Once an application has been submitted, the Applicant may invite others giving them permission to interact with the Application submittal process or simply to view the Permit Status.
4. Construction and site plans must be in PDF format with layers flattened, optimized and compressed.
5. JPG format is acceptable for documents or letters.
6. Maximum file size for each file should not exceed 50MB.
7. Below is the URL for our Live EnerGov CSS Portal Site
    - Full URL: https://oaklandcountymi-energovpub.tylerhost.net/apps/selfservice#/home
    - Friendly Link (share in emails): WRC Permitting & Soil Erosion Application Portal

Conceptual Plan Review Requirements

An application for review must be submitted for conceptual plan reviews. WRC will perform a cursory review of the plans and will advise the applicant if an application fee is required. Conceptual plan submittal and review is not a required step for the design and construction of a site. However, if a developer chooses to pursue a conceptual plan review, it may allow for a faster, more cost-effective process by identifying potential stormwater management issues early in the design phase of the project, particularly for sites that have unique characteristics and/or hydraulically restricted outlets. If conceptual plans are submitted, they shall include the following required information and will be submitted prior to the preliminary plat or plan:

1. A brief drainage narrative describing the proposed stormwater management system.
    a. On-site drainage infrastructure.
    b. Off-site drainage patterns of adjacent properties.
    c. Evidence of off-site outlet adequacy by means of certification. See Engineer's Certificate of Outlet in Appendix H.

2. Calculations determining the detention or retention volume requirements for the development.
3. Proposed topography for the detention or retention basin(s) in one-foot intervals.
4. Known environmental concerns and "Due Care" plans.
5. Calculations verifying that the soils provide the percolation rate required for the selected BMPs.
6. Schematic layout for the proposed drainage collection system.
7. Evidence of in-situ soil permeability, prevailing groundwater levels, and the location of proposed BMPs.
8. Soil types and areas of each soil based on USDA Soil Conservation Service classification system. (Please note that this is *not* a substitute for geotechnical investigations to demonstrate in-situ soil permeability).
9. Existing natural features, including wetlands and woodland areas.
10. Limits of disturbance (including consideration of topographical requirements for excavation).
11. Existing FEMA flood zones (Zone A or AE), if applicable.
12. If the development is proposed in an area where flooding problems exist or are anticipated at the site, on adjacent properties or downstream, include a plan for how these issues will be addressed.

After the above items, the WRC will determine if the submittal is sufficient for conceptual approval. The submittal must be complete, correct, and feasible in order to be conceptually approved. If it is determined that the information submitted is insufficient the WRC will advise the applicant of the deficiencies.

Application for Review

An application for review must accompany all plans submitted to WRC for review. The application shall be submitted by the Owner/Developer or the Design Engineer on behalf of the Owner/Developer. Application for review shall be made prior to the start of any work requiring a permit from WRC.

For project sites that will be developed in phases, an application is required for the initial work and new applications will be required for additional work not indicated on the original application.

WRC will perform a cursory review of the plans and will advise the applicant if an application fee is required. The total review, permit, and inspection fees will be determined upon completion of the review.

The review period begins upon the receipt of a completed application, plans and application fees.

Part B: Subdivisions- Sites to be platted under Act 288

Preliminary Plat

General Requirements

A preliminary or tentative plan showing the layout of the area intended to be platted shall be submitted by the Proprietor. This plan shall be prepared under the direction of and sealed by a registered professional engineer. The plan shall be drawn to a standard engineering scale no smaller than 1" = 100' and the sheet(s) of paper must not be larger than 24” x 36”. This preliminary plan is what the Subdivision Control Act of 1967 refers to in Section 111 as a "preliminary plat".

Section 114, Sub-section (3) of the Subdivision Control Act of 1967 requires that the Water Resources Commissioner approve or reject preliminary plats within 30 days of their receipt.

Three copies of the preliminary plat, prepared in accordance with the following requirements, shall be submitted with a letter of transmittal requesting that the preliminary plan be reviewed and, if found satisfactory, approved. The names of the Proprietor and engineering or surveying firm with mailing addresses, telephone, e-mail, and fax numbers for each shall be included with the transmittal.

The preliminary plat shall include:

1. The location of the proposed subdivision with reference to the section and part of section in which the parcel is situated, the name of the township, city or village, a proposed legal description of the site, the number of acres proposed to be platted and a location map with north arrow.
2. The proposed street and alley layout and approximate lot and plat dimensions.
3. All on-site and off-site pertinent factors, the existence and description of which might be of value in determining the overall requirements for the subdivision, such as:
   a. Adjoining roads, subdivisions, and parcels.
   b. Railroads.
   c. High-tension tower lines, underground transmission lines and gas pipelines.
   d. Cemeteries and parks.
   e. Rivers, natural water courses, county drains, lagoons, slips, waterways, streams, lakes, bays, canals, wetlands, wetland boundaries and floodplains.
   f. Existing utilities; storm drains, sanitary sewers, water main, telephone, cable, or fiber optic lines.
   g. Existing and proposed easements for all drainage facilities, including BMP’s and buffer strips.
4. Contour information in two-foot intervals with North American Vertical Datum of 1988 (NAVD 88), or most current national datum, shall be shown on the same plan, otherwise it shall be submitted on a separate sheet.
5. A drainage map, using a United States Geological Survey (USGS) topographic map, or equivalent, that shows the existing drainage area and flow patterns and indicates the proposed drainage pattern.

Inasmuch as improper utility easement location can result in a change in plat layout, the Proprietor is advised to consult with the respective utility companies before presentation of the preliminary plan for approval.

In the case where the Proprietor wishes to subdivide a given area but wishes to begin with only a portion of the total area, the original plan shall include the proposed general layout for the entire area. The part that is proposed to be subdivided first shall be clearly superimposed upon the overall plan in order to clearly illustrate the method of development which the Proprietor intends to follow. Each subsequent plat shall follow the same procedure until the entire area controlled by the Proprietor is subdivided. The final acceptance of a subdivision that is a partial development of a larger general layout does not automatically insure the final acceptance of the overall layout. The intent is to permit some flexibility in the overall layout if future conditions make it desirable or necessary to make any changes.

If the proposed preliminary plan as submitted meets with all the requirements, one approved copy of the preliminary plan will be returned. Approval of the preliminary plan is recommended before proceeding with the preparation of final construction plans. If the proposed plan is not approved as originally submitted, the Commissioner notifies the Proprietor in writing setting forth the reasons for withholding approval and requests that the necessary changes be made, and the revised layout resubmitted.

In accordance with Section 560.120 of Act 288, the preliminary plat approval is valid for two years. If construction plans have not been submitted within that time, a new preliminary plat must be submitted and approved. The two-year period may be extended if applied for by the proprietor and approved by the Water Resources Commissioner in writing.

Drainage Requirements

The preliminary plat must include the general drainage scheme for the proposed subdivision, or the plan will be rejected. The general drainage scheme shall indicate how storm drainage will be provided and where it will outlet. Preliminary calculations for detention and contributing off-site flow must be included on the plan. Additionally, the preliminary plat shall indicate locations of proposed BMP's, soil types and percolation rate(s).

Drainage proposed for subdivisions shall conform to established County Drain districts, existing natural drainage patterns and community master plans. The design shall consider the effect that the drainage proposed in the subdivision has upon the entire drainage basin.

The preliminary plat shall indicate in general, on a USGS topographic map, any drainage originating outside of the subdivision limits which has previously flowed onto or across the subdivision, as well as any natural watercourses and County Drains that traverse or abut the subdivision.

The preliminary plat shall indicate in general any proposed onsite and/or offsite facilities, proposed or existing, required to conduct the drainage to an adequate outlet.

The Water Resources Commissioner's office is not responsible for roadside ditches. Road drainage ditches are under the jurisdiction of the Road Commission for Oakland County (RCOC) or other authority. Any drainage plan that proposes to outlet storm water to a road ditch must be approved by the RCOC or authority that has jurisdiction.

The Water Resources Commissioner shall require that the developer provide assurance of adequate maintenance and inspection of the installation of both the external and internal storm drainage facilities.

Easement Requirements

The following minimum easement widths are required for all storm drainage facilities within the boundaries of the subdivision:

1. Open drains and watercourses:

   The extreme width of the drain or watercourse plus 15 feet from top of bank on both sides of the channel.

2. Enclosed drains:

   A minimum of twenty (20) feet centered on the centerline of the pipe. However, larger pipe size, certain soil conditions, or depth of pipe may require larger easements.

3. Rear yard drains:

   For pipe sizes less than 12 inches in diameter, a minimum of twelve (12) feet centered on the centerline of the pipe.

4. Pump stations, detention/retention basins and other storm drainage facilities shall have sufficient easement area to allow for operation and maintenance of the entire facility, including freeboard area, the banks, and any berms at the top of the banks.

5. BMPs and buffer strips shall have adequate easements to maintain and/or replace the device.

Easement widths for legally established County Drains shall be determined by the WRC. In general, these will conform to the above referenced requirements. Additional easements may be required by the Water Resources Commissioner's office should soil, construction conditions or other circumstances so warrant.

Easement information shall be shown on the preliminary plan, final construction plans and final mylar plat.

The wording relative to easement information shown on the final plat shall be as specifically required by the Water Resources Commissioner's office. All County Drain easements shall be labeled as follows: "Permanent private easement for the NAME County Drain". In Addition, restrictive deed covenants for the development shall include county drain language as described in the appendix.

The Oakland County Water Resources Commissioner's office reserves the right to modify easement requirements at its discretion.

Subdivision Construction Plans

The Proprietor will submit final construction plans that have been prepared under the direction of, and sealed by, a Professional Engineer licensed in the State of Michigan with a completed application form. The Water Resources Commissioner's Office will review the plans for adequacy of storm water management design to ensure that the proposed storm water drainage system has the capacity to handle all contributing flow without diminution of the existing off-site natural drainage patterns.

One set of complete, electronic final construction plans shall be submitted. The plans must be drawn to a scale not smaller than 1" = 50' on sheets no larger than 24" x 36" and designed in accordance with the design criteria presented herein.

Required Information

The plans should include, at minimum, the following:

1. A cover sheet which includes a site legal description and location map with north arrow and the number of acres proposed to be platted. For phased developments, clearly indicate the phase limits and the number of acres in each phase.
2. Subdivision layout of lots, roads, and all existing and proposed easements.
3. Plans, profiles and details of all road and storm sewers. The storm sewer details will include type and class and size of the pipe, length of run, percent of slope, invert elevations, rim elevations, and profile of the hydraulic gradient.
4. A description of the drainage course that will be utilized as the stormwater outlet and evidence that it is adequate for the proposed discharge. It is noted that controlling flow to a rate that is equal to or below the pre-development rate may not be considered to be evidence of adequacy. The Engineer's Certificate of Outlet, must be provided, including the signature and seal of the professional engineer responsible for determining adequacy.
5. Plans and details of the soil erosion and sedimentation control measures. Indicate which measures are temporary or permanent and the party responsible for maintaining the control measures.
6. Plans, cross-section views and details of the detention or retention basins and the outlet. If an existing basin on or off-site will be used, then as-built information must be provided.
7. Topographic map or maps at two-foot contour intervals with North American Vertical Datum of 1988 (NAVD 88), or most current national datum, showing existing topography and proposed grades of the entire area to be subdivided, as well as offsite topography for at least 150' of the adjoining property to the extent that off-site contributing flow can be determined. All off-site contributing flow must be accommodated. This map or maps shall also show all existing watercourses, lakes, and swamps.
8. Calculations, design data and criteria used for sizing all infiltration facilities, drainage structures, open channels and retention/detention facilities including curve numbers or weighted runoff coefficient calculations.

9. Storm drain calculations indicating the number of acres, calculated to the nearest tenth of an acre, contributing to each specific inlet/outlet, the calculated hydraulic gradient elevation, maximum flow in ft^3/sec and the flow velocities for enclosed systems. The calculations shall also include detention/ retention and runoff coefficient calculations as well as design calculations for all drainage swales and overflow structures. Overflow structures must be sized to pass all contributing off-site flow.
10. Specifications governing construction, i.e. material specifications, pipe bedding, construction notes, compaction requirements, etc.
11. Maximum flow in cubic feet per second for both the 10-year and 100-year recurrence interval storm events.
12. Flow velocities for the 10-year recurrence interval storm event.
13. Locations of all drain fields and of all expansion areas. Drain fields shall not be located within drainage easements.
14. Plans and details of proposed infiltration facilities with soil test pits or other testing methods detailed elsewhere in these rules, to verify that the facilities will function per the proposed design.
15. Plans and details of proposed retention/detention facilities. Soil borings may be required at the sites of these facilities.
16. A drainage area map, overlaid onto a copy of the site grading plan, which clearly shows the sub-areas tributary to each drainage structure, BMP and/or retention/detention facility, including acreage curve number (CN) and runoff coefficient (C factor) for each sub-area.
17. Plans, profiles, and details of all stormwater management system including but not limited to the following:
    - Porous Pavement
    - Dry Wells
    - Structural Infiltration Basins
    - Subsurface Infiltration Beds
    - Infiltration Trenches
    - Vegetated Filter Strips
    - Bioretention Systems/Bioswales (Rain Gardens)
    - Green Roofs
    - Water Reuse
    - Retention/Detention Facilities
18. Engineer's certificate attesting to the infiltration rate of the soils being used for BMPs.
19. Details of all drainage structures including but not limited to the following:
    - Manholes
    - Catch basins

- Inlets
- Outlet structures
- Overflow structures
- Check dams

20. A Stormwater Management Operation and Maintenance Agreement, plan, and a proposed schedule for the perpetual maintenance of the complete storm drainage system. Indicate who will be the primary party responsible (i.e. municipality or homeowners' association) for the maintenance. If a Homeowners Association will be the primary party responsible for maintenance of the stormwater system, an appropriate governmental unit shall be named as having underlining authority in perpetuity for overseeing the maintenance of the system, including the responsibility to perform maintenance in the event the Homeowners Association fails to do so. The responsibility for maintenance of the stormwater system shall be included in the subdivision deed restrictions and recorded with the plat. An example of a Stormwater Management Operation and Maintenance Agreement may be found in Appendix G. A copy of the subdivision deed restrictions and executed Agreement must be submitted to the Water Resources Commissioner prior to construction plan approval.

    - Reference Part I for requirements for the GIS data layers for key stormwater management features.

Review Time

The Proprietor shall prepare and submit a preliminary plat and final construction plans to WRC prior to submitting a final (Mylar) plat for approval. WRC shall tentatively approve or reject the preliminary plat within 30 days. A preliminary plat must be submitted and approved prior to submitting the final construction plans. Approval of the preliminary plat and final construction plans is required prior to the Water Resources Commissioner signing the final (Mylar) plat. The construction plan approval is valid for one (1) year. The one-year period may be extended if applied for by the proprietor and approved by the Water Resources Commissioner in writing.

Changes to the Plans

Approval of the final construction plans is intended to be final approval, and the actual signing of the mylar plat is only a formality, as long as there are no changes in the final construction plans from what was approved. If either the Proprietor or the Water Resources Commissioner find it advantageous to make changes before the mylar plat is presented to the Water Resources Commissioner for signature, such changes can be made, provided that the same procedures outlined above are repeated with each change in the layout. The Proprietor is reminded that approval of the proposed subdivision by the local governing body is also required under the Plat Act. Such changes shall be incorporated in the layout and revised construction plans shall be resubmitted even though the original layout may have already been approved by the Water Resources Commissioner. If the Proprietor does not present his mylar plat to the Water Resources Commissioner for approval within a period of one year after receiving approval of the final construction plans, it may be necessary that he resubmit the construction plans for review in the light of new information which may have become available during the interim.

Final Plat

The Proprietor shall submit the final mylar plat to the Water Resources Commissioner for certification. The plat will be reviewed for accurate drainage easements and equivalence with the approved construction plans. If the Commissioner approves the plat, he will affix his signature to it and the plat will be executed. If the Water Resources Commissioner rejects the plat, written notice of such rejection and the reasons therefore are given to the Proprietor within ten days.

Prior to the Proprietor submitting the final mylar plat for certification, the following is required:

1. Approval of the preliminary plat.
2. Approval of the final construction plans.
3. Assurance of adequate maintenance and inspection of the installation of both the external and internal storm drainage facilities.
4. A soil erosion and sedimentation control permit under Part 91 of Act 451 of the Public Acts of 1994 as amended.
5. Payment by the Proprietor of the plat review fee, according to the latest schedule posted on the Oakland County Water Resources Commissioner's website: www.oakgov.com/water.
6. A minimum, non-refundable application fee is required upon submittal of the preliminary plat and the construction plans.
7. Easements:
   a. Easement provisions shall conform to the widths indicated in "Preliminary Plat Easement Requirements" of this Section.
   b. All drainage easements, including freeboard, BMPs and buffer strips, shall be so designated on the plans as well as on the mylar plat.
   c. All existing easements are to be shown and identified on the mylar plat including the Liber and Page.
   d. Existing County Drain easements shall be indicated on the plans as well as the mylar plat and shall be designated as "XX feet wide easement for the "Name" (County) Drain as recorded in Liber___ , Page___".
   e. In cases where storm water is discharged to a drain or watercourse on adjoining private property, an improvement to the drain and an agreement with the property owner may be necessary. An off-site drainage easement will be required if:
      - The watercourse is not depicted as a blue line on a USGS map.
      - It is not indicated on the MIRIS map.
      - The watercourse is not considered wetlands by the governing municipality.

Part C: Mobile Home Developments

Public Act 96 of 1987, The Mobile Home Commission Act, requires a developer of a Mobile Home Park to submit a preliminary plan to the Water Resources Commissioner.

Preliminary Plan

The preliminary plan shall include the location, layout, general design, and a general description of the project. The following information shall be submitted for review:

1. Calculations, design data and criteria used for sizing all infiltration facilities, drainage structures, channels and retention/detention facilities including curve numbers or weighted runoff coefficient calculations.
2. Plans and details of proposed infiltration facilities with soil test pits or other testing methods detailed elsewhere in these rules, to verify that the facilities will function per the proposed design.
3. Plans and details of proposed retention/detention facilities. Soil borings may be required at the sites of these facilities.

Outlet Drainage

The Water Resources Commissioner must review and may approve the outlet drainage for the Mobile Home Park. The design requirements covered in these standards will be used for this review. All pertinent design calculations must be submitted. The interior drainage within the park will not be reviewed unless the park storm drain system is to be established as a County Drain under Chapter 18 of the Drain Code.

The Water Resources Commissioner may approve or reject preliminary plans within 60 days of their receipt; otherwise the plan is considered approved.

Mobile home park construction plans are reviewed by the Mobile Home Commission.

Part D: Drains under the Jurisdiction of the Water Resources Commissioner

Permits

The review application and application fee must be submitted before a site plan is reviewed. Permit fees and inspection deposits are determined on a site-specific basis after the review is completed. A permit shall be required from WRC prior to performing any work to a County Drain or its appurtenances. The following are examples of work:

a. Connecting to any part of an open ditch, enclosed drain or manhole or drainage structure. A tap can be a direct connection or a pipe outlet.

b. Crossing any part of an open ditch or enclosed pipe. Examples of crossings are utility lines, driveways, culverts, and bridges. A minimum clearance of five (5) feet for an open ditch drain and eighteen (18) inches for an enclosed drain must be maintained between the drain and any proposed utility or other underground crossings of the drain.

c. Relocating any part of a County Drain.

d. Enclosing any portion of an existing open ditch County drain.

e. Performing work within a County Drain easement.

f. When the installation of a fence, driveway, patio, pool, or other structure that does not have a foundation, encroaches into the County Drain easement.

g. Any development that will outlet stormwater directly to a County Drain will be reviewed by the Water Resources Commissioner for adequate stormwater management and outlet drainage. All other involvements will have a drainage review performed relevant to the work proposed.

h. The Proprietor shall submit one (1) set of electronic construction plans with a transmittal requesting plan review. The plans must be prepared in accordance with the design standards presented herein and sealed by a Professional Engineer licensed in the State of Michigan. All pertinent design calculations must be submitted with the final construction plans. Preliminary plans may be submitted but are not required.

General Permit Information Requirements

All plans shall include the following information:

a. The location of the proposed development by means of a location map at sufficient scale.

b. Legal description for the parcel to be developed.

c. The number of acres to be developed.

d. Contours, at two-foot intervals or less, with U.S.G.S. datum.

e. The proposed drainage system for the development.

f. The proposed street, alley and lot layouts and approximate dimensions.

g. Soil survey information with USDA NRCS soil group Classification.

h. Known environmental concerns and/or "Due Care" plan.

i. Engineer's certificate attesting to the infiltration rate of the soils. test pits or other testing methods detailed elsewhere in these rules, will be required at the location of all infiltration facilities, including but not limited to:

- Bioretention Systems/Bioswales (Rain Gardens)
- Porous Pavement
- Dry Wells
- Structural Infiltration Beds
- Subsurface Infiltration Beds
- Infiltration Trenches
- Vegetated Filter Strips

j. Soil tests may be required at various other locations including the sites of proposed retention/detention facilities, and as needed in areas where high ground water tables exist.

k. Certain County Drains have limited hydraulic capacity. These drains are listed in Appendix C. The allowable discharge to these drains will be dictated by the Water Resources Commissioner and may be more stringent than these design requirements.

l. The proprietor will prepare a maintenance plan for the long-term maintenance of the stormwater system. The proprietor shall enter into a Stormwater Management Operations and Maintenance Agreement with the local city, village, or township for the continued maintenance of the stormwater system. An example of a Stormwater Management Operations and Maintenance Agreement can be found in the Appendix G. The Agreement must describe the mechanism to be established for long-term maintenance of the stormwater management system, and the responsible government agency for maintenance oversight if maintenance is to be performed by a private entity. An executed copy of the Agreement shall be submitted to the WRC prior to approval of the permit.

m. Should the proprietor plan to develop a site but wishes to begin with only a portion of the total area, the original preliminary plan must include the proposed general layout for the entire area. The first phase of the development will be clearly superimposed upon the overall plan in order to clearly illustrate the method of development that the proprietor intends to follow. Each subsequent phase will follow the same procedure until the entire area controlled by the proprietor is developed.

Permit Requirements

a. The review application and application fee, appropriate permit fee and inspection deposit must be submitted before the permit is issued. Permit fees are determined on a site-specific basis.

b. A notice of 48 hours must be given to the Water Resources Commissioner's Inspection Department prior to any construction affecting the drain. In the event that our Inspection Department is not notified as stipulated herein the entire inspection deposit will be forfeited.

c. Flow shall be maintained in the drain at all times during construction.

d. All work shall be completed in accordance with the plans and specifications approved by the Water Resources Commissioner.

e. A cash deposit in an amount satisfactory to the Water Resources Commissioner to cover WRC inspection services shall be deposited to insure satisfactory completion of the project in accordance with the approved plans. The permittee shall contact the Water Resources Commissioner to perform an inspection of the permitted activity. Failure to contact the WRC for inspection of the work will result in forfeiture of all deposit money.

f. The contractor performing the work must have current cash and surety bonds with the WRC.

g. Work performed on the County Drain or its appurtenances must be performed in accordance with the Water Resources Commissioner's Storm Drain Notes and Details Sheet.

h. A drain permit issued by the Water Resources Commissioner's Office will not relieve the applicant and/or his contractor of the responsibility of obtaining permits, approvals or clearances as may be required from federal, state or local authorities, the public utilities and private property owners.

i. An as-built plan of the drain involvement must be submitted.

j. The Water Resources Commissioner shall be notified in writing within ten days of the completion of a project so that a final inspection of the permitted work can be performed.

k. All permit requirements must be completed prior to the Water Resources Commissioner refunding any remaining inspection deposit money.

l. A permit shall expire when work has not commenced within one year of the date of issuance. The Water Resources Commissioner may extend the permit for a period of time upon the request of the Owner/Developer in writing.

m. The Water Resources Commissioner may revoke a permit if there is a violation of the conditions of the permit or if there is a misrepresentation or failure to disclose relevant facts in the application.

n. A drain permit is separate from a Soil Erosion Control Permit.

Drainage Districts and Easements

County Drain Drainage District limits must be followed when designing the site. Drainage Districts do not necessarily conform to existing topography. If drainage originating outside of a certain district is discharged within the district, a revision to the drainage district boundaries will be required. Contact the Water Resources Commissioner's office regarding this process.

Drains constructed prior to 1956 may not have a recorded easement. However, the easement exists in the permanent records at the Water Resources Commissioner's office. At that time easements for drainage purposes were not required to be recorded with the County Clerk; it was legally sufficient to have them on file at the drain office. Therefore, it may be necessary to record a new County Drain easement, depending upon the work that is proposed, and the County Drain involved. If a new easement is required, contact the Water Resources Commissioner's Office regarding this process.

Part H: Operations and Maintenance

Long-term Operations and Maintenance (O&M) Plans are required for County and Non-County Stormwater Systems directly connected to a County Stormwater System as summarized below. To facilitate routine inspections, all O&M requirements and documents listed below shall be incorporated into the plan set on dedicated O&M-specific plan sheets. When O&M responsibilities or requirements are modified or updated, the respective O&M Plan sheet(s) shall be updated accordingly.

County and Non-County Stormwater Systems

The following MS4 Permit O&M requirements apply to all regulated County Stormwater Systems owned, operated, and maintained by WRC's office, the Oakland County Parks and Recreation Commission and the County of Oakland, hereafter referred to as County Departments and all regulated Non-County Stormwater Systems owned, operated, and maintained by others, which directly connect to a County Stormwater System:

A WRC approved O & M Plan Sheet, fully executed Stormwater Management O&M Agreement and recorded Memorandum of Stormwater Management O & M Agreement, are required prior to issuance of the Drain Permit.

1. Prior to the start of any development activity meeting the site applicability criteria defined in Part C: Applicability, a Drain Permit shall be obtained from WRC's Permitting Department. Coordination with WRC's Permitting Department is recommended at the conceptual stage of development projects to ensure that permit requirements are clearly identified early in the planning process.

2. To ensure consistent perpetual O&M of the site's stormwater system and to enhance water quality protection, prior to Drain Permit issuance, WRC's Permitting Department shall review and approve the site-specific Stormwater Management O&M Agreement between the community and property owner. A fully executed Stormwater Management O&M Agreement is required prior to issuance of the Drain Permit. This agreement shall consist of the following requirements which will be incorporated into the O&M Plan sheet(s):

    a. Legal Description: A legal description and reduced copy map to identify the land parcel(s) affected by this Agreement. This map shall be prepared for each site and must include a reference to a Subdivision Plat, parcel survey, or Condominium Master Deed, and a map to illustrate the affected parcel(s).

    b. Stormwater System Description and Map: A description of the stormwater system and its individual components and a location map of the entire stormwater system. This map must be prepared for each site and the scale of the map shall show necessary detail.

    c. Stormwater O&M Plan Sheet(s): The site-specific Stormwater O&M Plan shall include the following requirements:

        - Property information and property owner.
        - Brief description of the stormwater system, drainage area, and its individual components.

- Description of maintenance responsibility and manner of ensuring maintenance responsibility, such as employee and contractor O&M training requirements, certifications, and responsibilities.
- O&M Matrix (see table below)
    - Specific short-term, intermediate, and long-term maintenance tasks.
    - Inspection and maintenance tasks, frequencies, and responsibilities.
- BMP detail sheets and/or manufacturer specifications
- Approved construction drawings including stormwater calculations, details, elevations, a location map, and engineer's certification of construction.
- Land use summary table (see Part I of this section for table of submittal requirements).
- The O&M plan must be approved and signed by a certified person. The following certifications are approved by WRC: Professional Engineer (PE), National Green Infrastructure Certification Program (NGICP) by WEF, Construction Storm Water Operator (CSWO) certification by EGLE, or Certified Stormwater Manager (CSM) by American Public Works Association (APWA).

Example Operations and Maintenance Matrix

Maintenance Activities	Frequency	Stormwater Management Practices								
		Forebay	Inlet Structure	Bioretention Practices (bioswales, rain gardens)	Pavement Areas	Permeable Pavement	Subsurface Detention	Surface Detention	Catch Basins	Outlet Structure
Inspect for Trash, litter and/or debris accumulation	12 times per year									
Inspect For Floatable, Dead Vegetation, and Debris	12 times per year									
Overgrown vegetation that interferes with access, line of sight or safety	2-12 times a year									
Inspect all components during wet weather and compare to as-builts	2 times per year									
Inspect for sediment accumulation	2 times per year									
Vacuum/street sweeping	2 times per year									
Erosion stabilization/control	1 time per year									
Remove and replace dead vegetation	1 time per year									
Remove floatables, dead vegetation and debris	1 time per year									
Sweeping of paved and pervious pavement surfaces	As Needed									
Replacement of mulch layer and top 6 inches of bioretention soil	1 time every 2-3 years									
Fertilization for first year of vegetation	1 time initially									
Remove accumulated solids by vactoring	2-4 times per year or as recommended by vendor									

Repair and Replacement	Frequency									
Replace fill material for permeable pavement	As Needed									
Structural repairs	As Needed									
Structural replacement	As Needed									
Wildlife management	As Needed									
Replace stone filter material around outlet structure	Every 3 to 5 years									

Note(s):

Mechanical separators follow the manufacturer's guidelines for operation and maintenance.

d. Annual Stormwater System O&M Summary: Property owners and Individual County Departments are responsible for completing all O&M tasks and maintaining O&M records for their stormwater systems. Property Owners and County Departments shall submit an Annual Stormwater System O&M Summary to WRC's Permitting Department for tracking only. The community is responsible for enforcement of the O&M requirements as outlined in the Stormwater Management O&M Agreement and their MS4 permit. The summary shall include the following:

    - Property information and property owner.
    - Description of the stormwater system, drainage area and its individual components.
    - Description of maintenance responsibility.
    - O&M matrix filled out for each stormwater management practice with inspection date, inspector, field notes, and signed certification of qualified inspector.
    - Maintenance or repairs needed for each stormwater management practice.
    - Maintenance or repairs completed to date for each stormwater management practice.

e. Memorandum of Stormwater Management Operations and Maintenance Agreement: This O&M Memorandum acknowledges a perpetual requirement of stormwater system operations and maintenance, which must be recorded with the Register of Deeds to put any future property owners, or interest holders, on notice of the Stormwater System and the Stormwater O&M Plan. This O&M Memorandum references the required Stormwater Management O&M Agreement, which resides with the local community to ensure consistency and periodic updates as necessary. A copy of the recorded document shall be submitted to WRC prior to closure of the Drain Permit.

Appendix G - Stormwater Management O&M Agreement is an approved **"**example" agreement, however, WRC's office recognizes that community-specific O&M agreements, ordinances and programs may also be proposed and submitted to OCWRC for approval. When developing alternative O&M programs for consideration, the community should reference EGLE's Post-Construction Stormwater Runoff Controls Program Compliance Assistance Document (available on EGLE's website) and their MS4 permit.

Part I: Stormwater Tracking & Mapping

Collecting data on site runoff characteristics is critical for WRC and the local review jurisdiction (if applicable) to meet ongoing EGLE MS4 permit requirements. This will be accomplished with a ***Land Use Summary Table***, which must be included on the O&M Plan Sheet of each submitted site plan (see table below). Additionally, GIS-based site data (in the form of a shapefile) will be required as a condition of site plan approval. GIS data will be limited to key stormwater components that will require future inspection and maintenance.

Land Use Summary

must be included on the O&M Plan Sheet for all site plans

	Characteristic	Existing Conditions	Proposed Conditions
Land Use Data	**Total Development Area (ac)**		
	Impervious Area (ac)		
	Total Pervious Area (ac)		
	Pervious Area Breakdown by Cover Type		
Pervious Area			
	Meadow/fallow/natural areas (non-cultivated)	x.xx acres	x.xx acres
	Predominant NRCS Soil Type (A, B, C, or D)		
	Improved areas (turf grass, landscape, row crops)	x.xx acres	x.xx acres
	Predominant NRCS Soil Type (A, B, C, or D)		
	Wooded Areas	x.xx acres	x.xx acres
	Predominant NRCS Soil Type (A, B, C, or D)		
	CPVC Volume ***Calculated*** (cubic feet)		
	CPVC Volume ***Provided*** (cubic feet)		
	CPRC Volume Provided (cubic feet)		

The Professional Engineer who signs and seals this site plan certifies that the values in this table reflect the OCWRC stormwater calculations required for this development and that geotechnical investigations were performed that provide conclusive documentation that demonstrates whether infiltration (i.e., CPVC Volume Control) is practicable.

Notes:

- *The Professional Engineer Certification Statement (see above) must be included with the Land Use Summary Table.*
- *Areas to be shown to the nearest 0.01 acre*
- *'Predominant' soil type shall the soil type with the largest percentage coverage over the designated land use (e.g., 70% Soil Type B and 30% Soil Type C shall be listed in the table as "Soil Type B")*
- *USDA soil types cannot be used to determine site suitability for infiltration and meeting the CPVC volume standard; direct infiltration testing will be required to determine site suitability for infiltration*
- *If CPVC requirement is waived, enter ZERO for the 'CPVC Volume Provided'*
- *When more than one soil type exists in one area, assign the predominant soil type for that area*
- *Use NRCS/USDA Online Soil Survey Map to determine soil type (A, B, C, or D):*

Submitting GIS data is a new, but important, requirement; it allows for the development of a database for WRC and municipalities to track the location of stormwater BMPs for future inspection and enforcement activities

https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

In addition to the Land Use Summary table, the applicant must include the following stormwater system information in the submittal:

A final component of the site plan review process is the submittal of a GIS shapefile containing, at a minimum, the layers listed below, which consist of points and polygons that reflect the key components of the stormwater system. This information will be provided only after the technical review is completed. The GIS shapefile must reflect the final approved design and include the following layers (use the layer naming conventions listed below for ease of storing and tracking the GIS data):

1. Development Site – Area (ac), GIS area **polygon** (DSA-1, DSA-X)
    a. This area should reflect the entire area for which the stormwater system is designed
2. Site Discharge Point(s), GIS **points** (D-1, D-2, etc.)
    a. These points should reflect the location of each site discharge point; this is typically the point of connection to a County Drain, city storm sewer, or other drainage feature downstream of the detention basin discharge structure
3. Dry Detention Basins, GIS area (ac) **polygons** (DBASIN-1, etc.)

   a. The polygon should reflect the detention basin footprint up to and including the berm and any associated maintenance buffer

4. Wet Detention Basins, GIS area (ac) **polygons** (WBASIN-1, etc.)
   a. The polygon should reflect the detention basin footprint up to and including the berm and any associated maintenance buffer
5. Retention Basins (no outlet), GIS area (ac) **polygons** (RBASIN-1, etc.)
   a. The polygon should reflect the detention basin footprint up to and including the berm and any associated maintenance buffer
6. Sediment Forebays, GIS area (ac) **polygons** (Forebay-1, etc.)
   a. The polygon should reflect the detention basin footprint up to and including the berm and any associated maintenance buffer
7. Mechanical Separators, GIS **points** (MS-1, etc.)
   a. The points can be placed at a maintenance access point for each structure. If multiple mechanical separator units are proposed, create a point for each unit.
8. Bioretention/Bioswales– GIS area (ac), GIS **polygons** (BR-1, etc.)
   a. The polygon should reflect the bioretention footprint including any maintenance or safety buffers
9. Porous Pavement – GIS area (ac), GIS **polygons** (PP-1, etc.)
10. Cisterns/Rain Barrels, GIS **points** (RB-1, etc.)

Part F: Chapter 18 Drains

Chapter 18 Drains are new developments within Oakland County where the local municipality has passed an ordinance that requires all residential and certain commercial drainage systems to be established as County Drains in accordance with the provisions of Section 433, Chapter 18 of the Public Acts of 1956, as amended, the Michigan Drain Code. At present, Oakland and West Bloomfield Townships each have such an ordinance. Please refer to Section IV, “Establishing a Chapter 18 Drain” for additional information.

Section III General Design Criteria

Part A: Determination of Surface Runoff

Rational Method

The Rational Method assumes uniform rainfall intensity and is best suited for small or individual sites and can be used for sizing swales, open channels, enclosed drains, BMP volumes, manufactured stormwater treatment systems and culverts. For site design purposes, the Modified Rational Method will be used, which takes into consideration both land use and soil types. The Modified Rational Method will be used to determine flows for the 1-year, 10-year and 100-year storm events. The 1-year storm will be used to size manufactured stormwater treatment systems, flows into individual BMP's, and the Water Quality Volume (V_{WQ}). The Modified Rational Method is defined as follows:

Eq. III-1	$Q = C \times I \times A$
Q =	Peak Runoff (ft^3/s)
C =	Composite Runoff Coefficient for the Drainage Area
I =	Average Rainfall Intensity (in/hr).
A =	Drainage area (Acre)

Coefficient of Runoff

A representative coefficient of runoff, (C), will be used based upon the imperviousness of the contributing acreage. The range of this coefficient may vary from 0.15 to 1.00. The runoff coefficient calculation must be included with on the drainage breakup sheet with the submittal. Certain calculations require a composite runoff coefficient value. A composite runoff coefficient is calculated as follows:

C Values		
Green Space	HSG A	0.15
	HSG B	0.20
	HSG C	0.25
	HSG D	0.30
Impervious Areas		0.95
Water		1.00

*HSG = Hydrological Soil Group

Eq. III-2	$C = \frac{\sum_{i=1}^{n}(A_i \times C_i)}{\sum_{i=1}^{n} A_i}$
C =	Composite Runoff Coefficient for the Drainage Area
n =	Total number of sub-areas
C_i =	Runoff coefficient for each sub-area
A_i =	Drainage area for each sub-area (Acre)

Modified Rational Method

The Modified Rational Method will be used to calculate many of the required volumes. The value 3630 is a constant to convert the (inch)(acre) to ft^3 [1-inch = 1/12 ft; 1-acre = 43,560 ft^3]. The modified rational method is used to calculate the water quality volume (V_{WQ}), the Channel Protection Volume (V_{CP-R}), the Forebay Volume (V_F), the Extended Detention Volume (V_{ED}), and the 100-Year Storm Volume (V_{100R}).

Eq. III-3	$V = 3{,}630\ x\ P\ x\ C\ x\ A$
V =	Required volume in cubic feet
P =	Precipitation depth in inches
C =	Post-development composite runoff coefficient
A =	Contributing area in acres

Rainfall Depths

Rainfall depths used within the Modified Rational Method to calculate the required volumes are:

	Rainfall Depths (inch)	
90th percentile storm (1-inch) for Water Quality	P_{wq}=	1.00
1.30-inch for Channel Protection Volume Control	P_{cpvc}=	1.30
1.90-inch for Channel Protection Rate Control-Extended Detention	P_{cprc}=	1.90
15 percent of the Water Quality Volume for the Forebay	P_{fb}=	0.15
10-year 24-hour storm for Conveyance	P_{10} =	3.41
100-year 24-hour storm for Flood Control	P_{100}=	5.40

Time of Concentration

The time of concentration (T_c) is the time required for water to travel from the hydraulically most remote point of the drainage sub-area to a design point. The T_c is used in the Rational Method to estimate peak flow for sizing storm sewer systems, or for applying unit hydrographs and NRCS curve number methods to generate and route runoff hydrographs for sizing storm sewer systems and stormwater controls.

When determining the time of concentration for a pipe network, an initial time of concentration of 20 minutes for the farthest upstream inlet will be used for residential developments and 15 minutes for commercial or industrial developments. For sites less than 5 acres, an initial time of concentration of 10 minutes will be used.

When determining the time of concentration for a pipe network, an initial time of concentration of 20 minutes for the farthest upstream inlet will be used for residential developments and 15 minutes for commercial or industrial developments. For sites less than 5 acres, an initial time of concentration of 10 minutes will be used. The time of concentration is calculated using travel time for the 10-year discharge through the system where Manning's equation is used to compute velocity.

Eq. III-4	$T_t = \frac{\mathrm{L}}{3{,}600v}$
Tt =	Travel time in hours
L =	Flow length in feet
v =	Average velocity in feet/second as determined by Manning's equation for pipe flow

Eq. III-5	$v = \mathrm{K} \times \mathrm{S}^{1/2}$
v =	Average velocity in feet/second
S =	Slope of flow path in percent
K =	Coefficient *K* = 0.48 for Sheet Flow *K* = 1.20 for Swales or Shallow Drainage Course *K* = 2.10 for Ditches and Watercourses

Eq. III-6	$T_c = \frac{\mathrm{L}}{60V}$

T_C =	Time of concentration in minutes
L =	Flow length in feet
V =	Flow velocity in feet/second

For overland flow, the velocity is calculated for each of the flow characteristic types present along the longest flow path across the drainage area.

Rainfall Intensity

The rainfall intensity used for stormwater design is based on NOAA Atlas 14 Precipitation-Frequency Atlas of the United States, Volume 8 Version 2: Midwestern States, including Michigan, based on the average of the Pontiac WWTP, Troy-Rockwell, Eastpointe, Washington, Howell WWTP, Detroit Metro AP, and Wayne-Canton stations. This regional rainfall data average was then converted into an IDF curve equation used for all storm return periods for ease of use.

Eq. III-7	$I = \frac{30.20p^{0.22}}{(T_c + 9.17)^{0.81}}$
I =	Average rainfall intensity in inches/hour
p =	Design storm return period in years
T_C =	Time of concentration in minutes

Regional* 24-Hour Average Rainfall Amounts

Storm Event	Rainfall Amount (inch)
1 Year	2.07
2 Year	2.38
5 Year	2.87
10 Year	3.32
100 Year	5.23
* Region includes Livingston, Macomb, Oakland and Wayne counties	

Part B: Stormwater Conveyance

Stormwater conveyance systems may consist of open ditch drains, swales, closed conduits or a combination of methods to convey stormwater. Design and construction of stormwater conveyance will follow WRC's specifications, as a minimum. Other more stringent standards such as: Michigan Department of Transportation, Road Commission for Oakland County, or local community, shall also be followed.

For work involving County Drains, please refer to WRC construction specifications, available from WRC's website, for approved construction materials.

Drainage Structures

The flows to specific catch basin or inlet covers shall conform to the following:

1. Combination curb and gutter inlet (MDOT Cover K, or equivalent): A maximum of 3.1 ft^3/sec at 0% grade (sump condition), and then decreasing as grade increases.
2. Gutter inlet (MDOT Cover D, or equivalent): A maximum of 3.2 ft^3/sec as 0% grade (sump condition), and then decreasing as grade increases.
3. Rear yard or ditch inlet (MDOT Beehive Cover E, or equivalent): In general, a maximum of 2.5 ft^3/sec at 0% grade (sump condition), and then decreasing as grade increases. However, a smaller or larger maximum inflow may be allowed as is warranted by surrounding finished grading.

Drainage inlets or manholes shall be located as follows:

1. To assure complete positive drainage of all areas of the site.
2. At all low points of streets and rear yards. Runoff shall not flow across a street Intersection.
3. Maximum of 600 feet of drainage from any developed point on the site to a structure or BMP.
4. Manholes shall not be spaced more than 400 feet apart for pipes less than 48" in diameter. Longer pipe runs may be allowed for larger sized pipe, but in all cases maintenance access must be determined to be adequate.
5. Any change in pipe direction requires a manhole or catch basin.
6. All materials will be of such quality as to guarantee a maintenance-free expectancy of at least 50 years and will meet all applicable A.S.T.M standards.

Outlet velocities greater than 5 ft/sec will require energy dissipation measures.

Stormwater Outlets

1. The velocity at a pipe outfall should be no greater than 10 ft/sec to prevent scouring. Outlet velocities greater than 5 ft/sec will require energy dissipation measures.

2. Riprap shall be installed at all outlets according to the Oakland County Water Resources Commissioner's Storm Drain Notes and Details Sheet.
   a. Riprap may consist of minimum 8" diameter to 15" diameter fragmented limestone or other suitable rock set on a stone bedding underlain with geotextile fabric. Larger diameter outlets may require larger riprap as velocity and flow conditions dictate.
   b. Cobblestone, broken concrete, or grouted riprap are not acceptable.
3. A bar screen is required for all pipe outlets and inlets 18" diameter and larger.
4. Outlets to open channels shall be installed at the bottom of the open channel with headwalls or flared end sections.

Enclosed Storm Drains

An enclosed storm drain system must be designed to accommodate the storm water runoff from a 10-year storm event from the site and any offsite contributing runoff. The Manning Equation (Eq. 8) will be used to check the pipe size.

Eq. III-8	$Q_{10} = \frac{1.486}{n} \; x \; A_{pipe} \; x \; R^{2/3} \; x \; s^{1/2}$
Q_{10} =	10-year flow rate cubic feet/second
n =	Manning coefficient of roughness (See Table Below)
A_{pipe} =	Cross-sectional area of pipe
R =	Hydraulic radius of pipe (A_{pipe}/P) in feet
P =	Wetted perimeter in feet
s =	Pipe slope (ft/ft)

n value based on pipe material	
n value	Pipe Material
0.013	smooth concrete pipe
0.013	approved flexible pipe (plastic)
0.025	unlined corrugated metal pipe

*Refer to WRC specification "Materials- Storm Drain" for approved pipe materials for County Drains

1. The hydraulic grade line is calculated for the entire system with an assumed downstream elevation of 0.80 x diameter of the outlet pipe or the permanent pool elevation, whichever is greater.
2. The enclosed storm drain should be designed to flow full, i.e. with a hydraulic grade line at or near the top of pipe. The pipe will be allowed to surcharge in certain circumstances, but the peak hydraulic grade line must be a minimum of one (1) foot below grade.

3. The minimum pipe size for storm drains accepting surface runoff is 12" diameter.
   a. Rear yard pipes or sump pump collector pipes may be smaller, but must be used in conjunction with a drainage swale that directs runoff to a minimum 12" diameter pipe structure.
4. Pipe joints shall have premium rubber gaskets designed to prevent excessive infiltration.
5. Storm drains shall be designed flowing full to have a minimum velocity of 2.5 ft/sec and a maximum velocity of 10 ft/sec.
6. The minimum depth of pipe shall be 42 inches from grade to the springline (i.e. horizontal midpoint) of the pipe.
7. In areas where local ordinance requires sump pump leads to be connected into an enclosed system, these taps shall be made directly into storm sewer structures or into cleanouts.

Open Watercourses

1. Appropriate permits from agencies such as the Michigan Department of Environment, Great Lakes, and Energy (EGLE) must be obtained and submitted to the WRC's office.
2. The SCS method, Rational Method, or other prior approved method will be used to determine the amount of flow contributing to the watercourse. All watercourses must be sized to accommodate the runoff from a 10-year storm event. WRC's office will use the Manning Equation (EQ. 8). to check the capacity of the watercourse. The appropriate values for "*n*" are as follows:

n Value Based on Open Channel Conditions	
n value	Channel Condition
0.025-0.030	Maintained grass channel, rear yard swales
0.030-0.035	Natural channels, some grass and weeds, little or no brush
0.035-0.050	Dense growth of weeds, depth of flow greater than weed height
0.035-0.050	Some weeds, light brush on banks

3. Open channel flow velocities shall be neither siltative nor erosive. In general, the minimum acceptable non-siltative velocity will be 2.5 ft/sec.
4. Erosion protection shall be placed at bends, drain inlets and outlets, and other locations as required in all open ditches.
5. Side slopes of channels shall be no steeper than 1 foot vertical to 3 feet horizontal, unless fencing is provided. Ditches with steep grades shall be protected by sod, vegetation or other means to prevent scour.
6. All bridges shall be designed to provide a 2-foot minimum 100-year flood stage freeboard to the underside of the bridge. The bridge footings shall be deep enough to be below the frost line and to

allow a 5-foot channel deepening. Bridge footings and columns may not be located within the open channel.

7. Areas within open drain rights-of-way, which have been cleaned, re-shaped or in any manner disturbed shall be seeded and mulched, sodded or re-vegetated with other plant materials.

Determination of Culvert Size

All culvert design calculations must be submitted to this office for review. Culverts serving an upstream watershed equal to or greater than two square miles will also require an EGLE permit (Part 31 of Water Resources Protection Act, Public Act 451 of 1994, as amended). Calculations must be sealed by a Professional Engineer and must include:

1. Delineation on a topographic map of the area contributing to the culvert.
2. Hydrologic calculations to determine the flow.
3. Hydraulic calculations used to determine the size of the culvert.
4. Calculations for depth of cover and expected loads.
5. When an existing culvert is proposed to be modified, backwater calculations and/or downstream calculations may also be required for review.
6. This office will use the Rational Method, SCS Method, or other prior approved method to determine the flow contributing to the culvert. Culverts are sized to pass a minimum 10-year storm event or the governing design storm of the watercourse, whichever is greater.
7. The velocity within the culvert shall be neither siltative nor erosive.
8. The Manning Equation or inlet headwater control or outlet tailwater control nomographs will be used to check the culvert design.

Part C: Channel Protection Volume Control

Both onsite water quantity and quality must be managed to control flooding, reduce downstream erosion and protect water quality. Channel Protection Volume Control shall be implemented to the Maximum Extent Practicable (MEP), and in general, should follow the guidelines recommended by SEMCOG Low Impact Development Manual for Michigan: A Reference Guide for Implementers and Reviewers and The City of Detroit: Stormwater Management Design Manual. Several non-structural and structural Best Management Practices (BMPs) are referenced within this Section.

Non-Structural BMPs

The use of Non-Structural BMPs is an important part of a project's stormwater management system. The following Non-Structural BMPs are self-crediting; use of these BMPs automatically provides a reduction in impervious area and/or stormwater runoff resulting in a lessor runoff coefficient, larger time of concentration, and lower peak flows. A corresponding reduction in the stormwater management requirements set forth by these rules occurs. Additionally, the use of these BMPs may be affected by other regulations/guidance (Master Plans, zoning, subdivision, etc.). These BMPs are strongly encouraged:

- Protect Natural/Special Value Features
- Protect/Conserve/Enhance Riparian Areas
- Protect/Utilize Natural Flow Pathways
- Preserve Open Space (e.g. clustering)
- Reduce Street Width/Area
- Reduce Parking Width/Area
- Minimize Disturbed Area (Cluster Developments)
- Protection of Existing Trees (part of minimizing disturbance)
- Re-Vegetate and Re-Forest Disturbed Areas
- Rooftop Runoff (downspout) Disconnection
- Disconnection of Impervious Areas (Non-Roof)

Structural BMP General Requirements

All runoff generated by a proposed development should be conveyed into a stormwater BMP facility for infiltration, evapotranspiration, and/or water quality treatment, to the MEP.

The following criteria will apply to the design of all stormwater BMPs:

1. Preform initial NRCS soil classification (from soil survey) and infiltration testing to determine the feasibility of infiltration practices and eliminate unsuitable areas.
2. In multi-ownership developments, locate BMPs facilities on common-owned property within an easement. BMPs facilities shall not be located on private lots, condominium units, or located within a County Drain, sewer, or water easements.

3. Infiltration/reuse BMPs are engineered to dewater surface water in 24-hours and completely within 72-hours from the end of a storm event. Dewatering is defined as having no excess stormwater from an event present in the BMP including both surface ponding and subsurface storage.

Infiltration BMPs should completely dewater in 72 hours including 24 hours for surface ponding and 48 hours for subsurface storage.

4. BMPs incorporating pumps are discouraged. In rare cases where pumping is justified, additional design provisions are required, including but not limited to backup power and gravity-based overflow routing.
5. A recommended horizontal distance of 4 ft and a minimum horizontal distance of 2 feet between the seasonal high-water table and bottom of infiltration facilities is required.
6. In areas where the infiltration rate varies across the development, the developer shall maximize the use of infiltration BMPs within areas of having the most favorable ($K_{sat} \geq 0.50$ inches/hour) soils.
7. Pre-treatment of all stormwater is required before entering a BMP facility to prevent premature failure of the system. Pre-treatment can be accomplished by the following:
    a. Vegetative Filter Strips
    b. Vegetative Swales
    c. System inlets with sumps
    d. Centralized infiltration BMPs (i.e. infiltration basins) pre-treatment consists of a forebay or manufactured treatment system
    e. Other methods of pre-treatment will be considered by this office on a case-by-case basis
8. The use of decentralized stormwater BMPs are preferred unless the developer can demonstrate that decentralized stormwater infiltration and/or Total Suspended Solids (TSS) removal is not practical.
9. A minimum of one infiltration test per proposed infiltration BMP location is required.
10. For large, centralized infiltration BMPs, exceeding 10,890 square feet (1/4 acre), multiple infiltration tests are required at a minimum of four tests per acre, rounded up. For example, a BMP with an area of 0.4 acre would require 2 infiltration tests.
11. The use of heavy equipment within infiltration areas should be avoided during construction to prevent compaction of soils. Locations of infiltration BMPs should be identified and sectioned off during construction to limit access.
12. Prior to installation of an infiltration BMP, the in-situ soils should be prepared by adding additional soil amendments (such as sand or compost) and/or through mechanical loosening of soil. Examples of mechanical loosening include rototilling or scarifying the soil with a long-toothed backhoe bucket. These techniques will improve infiltration underneath the infiltration BMP.
13. Generally, infiltration BMPs should be avoided in the following areas:
    a. In areas with compacted fill soils.
    b. In areas with high pollutant loads, including sites that receive constant sediment, trash, other debris, and places where chemicals are stored or handled.

c. In areas where it will be difficult to access the BMP, on a regular basis, for maintenance or cleaning.

d. In areas where materials, especially landscaping supplies, are stockpiled.

e. In areas there are routinely wet.

The required Channel Protection Volume Control (V_{CP-R}) is based on the 1.30-inch rain depth over the site using Eq. 9. The simplified form is:

Eq. III-9	$V_{CP-R} = 4{,}719\ x\ C\ x\ A$
V_{CP-R} =	Required CPVC volume in cubic feet
C =	Post-development composite runoff coefficient
A =	Contributing area in acres

Technical Infeasibility

For projects where technical infeasibility exists, the design engineer must document and quantify that stormwater strategies, such as infiltration, evapotranspiration, water harvesting and water reuse, have been used to the maximum extent possible and that implementation of these methods are infeasible due to site constraints and not economic considerations. The burden of proof of Technical Infeasibility lies with the design engineer. Documentation of technical infeasibility should include, but may not be limited to, engineering calculations, geological reports, hydrological analyses and site maps. A determination that the performance design goals cannot be achieved on the site should include analyses that rule out the use of an adequate combination of infiltration, evapotranspiration, and water use measures. Adequate documentation must be submitted to WRC for review and final determination. Examples of site conditions that may prevent the application of stormwater BMP's to the METF includes*:

The use of infiltration BMPs to the MEP is based on site constraints and not economic considerations.

1) The conditions on the site preclude the use of infiltration practices due to the presence of shallow bedrock, contaminated soils, high ground water or other factors, such as underground facilities, utilities or location of the development within a wellhead protection area.

2) The design of the site precludes the use of soil amendments, plantings of vegetation or other designs that can be used to infiltrate and evapotranspirate stormwater runoff.

3) Water harvesting and reuse are not practical or possible due to the volume of water used for irrigation, toilet flushing, industrial make-up water, wash-waters, etc. is insignificant to warrant the application of water harvesting and use systems.

4) Modifications to an existing building to manage stormwater are not feasible due to structural or plumbing constraints or other factors.

5) Sites where the site area is too small to accommodate adequate infiltration practices for the impervious area to be served.

6) Soils that cannot be sufficiently modified to provide reasonable infiltration rates.

7) Situations where site use is inconsistent with the capture and use of stormwater or other physical conditions on site that preclude the use of plants for evapotranspiration or bioinfiltration.

8) Retention and/or use of stormwater onsite or discharge of stormwater onsite by infiltration having an adverse effect on the site, gradient of surface or subsurface water, receiving watershed, or water body ecological processes.

9) Federal, state of local requirements or permit conditions that prohibit water collection or make it technically infeasible to apply LID practices.

* Adapted from EPA Section 438 Technical Guidance December 2009.

Infiltration Testing

The infiltration testing must provide information related to the conditions at the bottom of the infiltration BMP. General infiltration test guidelines are as follows:

1. Any test used to determine infiltration rates for BMPs, shall be performed at the location and extend to the bottom elevation of the proposed infiltration BMP.
2. Infiltration tests must not be conducted in the rain, within 24 hours of significant rainfall events (>0.5 inches), when the ground is frozen, or when the temperature is below freezing.
3. Infiltration tests should be conducted in the field.
4. All infiltration rates used for the design of BMPs must be certified by a Professional Engineer licensed in the State of Michigan and submitted to the WRC's office.
5. Following all testing, the surface must be restored.
6. Additional infiltration tests may be necessary due to subsurface variability, water table depth or topography. The WRC's office will determine if more tests will be required.

Infiltration tests may include, but not limited to, the following methods:

1. Test Pits used in conjunction with any of the infiltration tests listed below
    a. Double-ring Infiltrometer test – estimate for vertical movement of water through the bottom of the test area
        i. ASTM 2003 Volume 4.08, Soil and Rock (I): Designation D 3385-03, Standard Test Method for Infiltration Rate of Soils in Field Using a Double-Ring Infiltrometer
        ii. ASTM 2002 Volume 4.09, Soil and Rock (II): Designation D 5093-90, Standard Method of Field Measurement of Infiltration Rate Using a Double-Ring Infiltrometer with a Sealed-Inner Ring
    b. Percolation tests – estimate for vertical movement of water through the bottom and sides of the test area

c. Encased falling head permeability test – estimate for vertical movement of water through the bottom of the test area

d. Guelph permeameter

e. Constant head permeameter (Amoozemeter)

2. When using test pits, a minimum of 2 infiltration tests are required per test pit.

3. Soil Borings

a. The use of soil borings to determine infiltration rates is discouraged. If soil borings are used in lieu of test pits, a safety factor of 2 is applied to the final K_{sat} value. This is due to the limited sample and the inability to test in-situ soil characteristics when preforming a soil boring.

Note: Other tests selected by the design engineer that can accurately represent the in-situ infiltration rate may be used at the discretion of this office.

The following infiltration (K_{sat}) values shall be used to determine the appropriate design methods for infiltration BMPs:

K_{sat} Values	
Ksat ≥ 0.50 in/hr	No supplemental measures are required for Infiltration BMPs to provide the infiltration volume
0.50 in/hr≥ Ksat ≥ 0.24 in/hr	Install supplemental measures, which may include subsoil amendment, or an underdrain placed at the top of the storage bed layer to ensure dewatering in the event underlying soils fail to provide adequate drawdown or dewatering time. If underdrains are selected, design shall allow stormwater to percolate through the soils first, with the underdrain serving as a secondary outlet, by placing the underdrain in the upper level of the BMP, with pipe perforations located along the underdrain invert.
Ksat ≤ 0.24 in/hr	***Soils are not suitable for infiltration. Alternative volume reducing LID practices must be used to the MEP to reduce stormwater volume.***

BMP Volume Calculations

The most practical way to reduce stormwater runoff is to incorporate infiltration based structural BMPs. Infiltration based BMPs include bioretention basin/rain garden, vegetated bioswales, porous pavement, infiltration basins, subsurface infiltration beds, dry wells, and infiltration trenches. These BMPs share the common feature of storing stormwater on the surface or in a subsurface matrix and allowing the water infiltrate over a period of 24 to 48 hours depending on the BMP. For BMPs that incorporate vegetation, stormwater runoff is also reduced through evapotranspiration. Other structural BMPs, such as vegetated roofs and water harvesting / reuse systems can also provide volume reduction and be used to meet the Channel Protection Volume Requirement (V_{CP-R}) The basic calculations for the V_{CP-R} achieved for BMPs are as follows:

Bioretention Basin/Rain Garden

The Infiltration Area is the average area of a Bioretention Basin or Rain Garden is defined as:

Eq. III-10	$A_t = \frac{A_1 + A_2}{2}$
A_t =	Average infiltration area in square feet
A_1 =	Area of bioretention at ponding depth in square feet
A_2 =	Bottom bioretention surface area in square feet

Volume Calculations

The storage volume of a Bioretention Basin or Rain Garden is defined as the sum of surface storage, subsurface void space within the engineered soil media and/or stone layer, and the infiltration volume occurring during a six-hour period. The infiltration volume is calculated using the in-situ infiltration rate of the underlying soils.

Eq. III-11	$V_{ss} = A_t \; x \; H$
V_{ss} =	Surface storage volume in cubic feet
A_t =	Average infiltration area in square feet
H =	Maximum BMP ponding depth in feet

Eq. III-12	$V_{subsurface} = (h_{soil} \; x \; e_{soil} + h_{stone} \; x \; e_{stone}) \; x \; SA$
$V_{subsurface}$ =	Storage volume in the soil and/or stone layer in cubic feet
h_{soil} =	Engineered soil depth in feet
h_{stone} =	Stone depth in feet (if stone is present)
SA =	Bottom surface area in square feet
e_{soil} =	Void ratio of engineered soil (unitless)
e_{stone} =	Void ratio of stone (unitless) (if stone is present)

Eq. III-13	$V_i = \frac{K_{sat} \; x \; S_f \; x \; 6 \; x \; A_t}{12in}$
V_i =	Infiltration volume in cubic feet during a six hour period
K_{sat} =	Infiltration rate in inches/hour
S_f =	K_{sat} safety factor
A_t =	Average infiltration area in square feet

Eq. III-14	$V_{tbr} = V_{ss} + V_{subsurface} + V_i$
V_{tbr} =	Total bioretention volume in cubic feet
V_{ss} =	Surface storage volume in cubic feet
$V_{subsurface}$ =	Storage volume in the soil and/or stone layer in cubic feet
V_i =	Infiltration volume in cubic feet

Bioswale

Bioswales are linear bioretention basins that convey stormwater in addition to providing infiltration. If check dams are utilized within the bioswale, the volume behind each check dam can be estimated from the following:

The infiltration volume for Bioswales can be calculated using the Bioretention/Rain Garden equations. (EQ 10 through 14)

Eq. III-15	$V_t = 0.5\ x\ L_{swale}\ x\ H_{swale}\ x\ \frac{W_t + W_b}{2}$
V_t =	Storage volume in cubic feet
L_{swale} =	Length of swale in feet
H_{swale} =	Depth of swale check dam in feet
W_t =	Top width of swale check dam in feet
W_b =	Bottom width of swale check dam in feet

Infiltration Basin/Trench

Infiltration area and volume calculations are the same as for Bioretention BMPs.

Porous Pavement

The infiltration area and volume calculations are the same as bioretention BMPs. However, the reservoir layer is the layer of open-graded stone beneath the pavement layer and there is no surface storage. Use Eq. 16 to calculate the volume in the stone using H as the thickness of the open-graded stone below the pavement. For the infiltration volume (V_i see above Eq. 15).

Eq. III-15	$V_t = 0.5\ x\ L_{swale}\ x\ H_{swale}\ x\ \frac{W_t + W_b}{2}$
V_t =	Storage volume in cubic feet
L_{swale} =	Length of swale in feet
H_{swale} =	Depth of swale check dam in feet
W_t =	Top width of swale check dam in feet
W_b =	Bottom width of swale check dam in feet

Eq. III-16	$V_{tpp} = V_{stone} + V_i$
V_{tpp} =	Total pervious pavement volume in cubic feet
V_{stone} =	Stone storage volume in cubic feet
V_i =	Infiltration volume in cubic feet

Vegetated Roofs

Vegetated roofs, also known as green roofs or living roofs, are very effective as reducing rooftop runoff from small to medium sized storm events. Vegetated roofs reduce volume by intercepting rainfall in a layer of growing media and/or in a retention layer. The water is then evapotranspirated back into the atmosphere. Volume reduction credit for a vegetated roofing system will be evaluated on a case-by-case basis since most vegetated roofing systems are proprietary.

Water Reuse

Water reuse consists of storage vessels, such as cisterns, which store a specified volume of stormwater runoff and release (reuse) the runoff volume for onsite irrigation or internal uses such as industrial water or sanitary systems. The total aggregate storage volume credit shall be equal to the total storage volume of all storage vessels identified in the site plan that also include a documented reuse plan. The reuse plan demonstrates how the stored water will be used in between rain events such that the storage vessels are ready to receive stormwater runoff from the next rainfall event.

The consideration of other volume reducing BMP's will be evaluated by OCWRC on a case-by-case basis.

Part D: Water Quality Control

All detention and retention basins shall have a sediment forebay, manufactured treatment system, or BMPs upstream to treat the water quality volume entering the flood control basin. Water quality devices must be installed to treat all incoming flow into the basin. If there is no stormwater detention requirement, water quality treatment is still required to reduce Total Suspended Solids (TSS) concentrations to a maximum of 80 mg/L, or a 80% TSS removal before discharging from a site.

Water quality treatment is automatically achieved if Channel Protection Volume Control requirements are met.

The Water Quality Volume can be calculated as follows

Eq. III-17	$V_{wq} = 3{,}630 \times C \times A$
V_{wq} =	Water Quality volume in cubic feet
C =	Composite runoff coefficient
A =	Contributing area in acres

The Water Quality Rate is used to design Manufactured Stormwater Treatment Systems and can be calculated using the following equation:

Eq. III-18	$Q_{wq} = C \times A \times \frac{30.20}{(Tc + 9.17)^{0.81}}$
Q_{wq} =	Water Quality rate in cubic feet per second
C =	Composite runoff coefficient
A =	Contributing area in acres
Tc =	Time of concentration in minutes

Manufactured Stormwater Treatment Systems

Manufactured stormwater treatment systems (MSTS) are used to remove sediment and other particulate matter from stormwater runoff. However, they are not to be used for soil erosion control during construction. The following are requirements for manufactured treatment systems:

1. MSTS must be installed upstream of the stormwater detention system. If the site is not required to provide stormwater detention, a manufactured treatment system must be installed upstream of the connection to the receiving system.
2. The MSTS shall be designed off-line to allow continuance of flow in the event the manufactured treatment system becomes obstructed.
3. Calculations for sizing mechanical treatment devices shall be based on the following:
   a. The 1-year peak flow rain event (2.07" rainfall) using the Modified Rational Method as shown in Eq. III-3.
   b. Site specific time of concentration (T_c) and associated rainfall intensity (I)
   c. The area shall include all post-developed, disturbed areas contributing to the MSTS.
   d. Tributary areas to volume reducing BMPs, located within the overall contributing drainage area to the manufactured treatment system, may be subtracted from the manufactured treatment system's contributing drainage area for design purposes.
4. The MSTS shall conform to the standards set forth and certified by the New Jersey Department of Environmental Protection (NJDEP) for manufactured treatment systems, as defined at http://www.njstormwater.org/treatment.html, including offline use, manhole diameter size, and custom or multiple units.
5. The NJDEP certified treatment flow rate (cfs) for a manufacturer and model shall be higher than the calculated peak discharge for a particular site and documentation of how the MSTS meets the WRC water quality control standards shall be submitted.
6. Please refer to WRC construction specifications for approved manufacturers of manufactured treatment systems installed on County Drains.

When using manufactured treatment systems, Extended Detention is still required for rate control.

Forebay Design

The purpose of the forebay is to capture and collect silt, trash and debris into one area, and prevent sediment buildup in the main flood control basin., The forebay shall be a separate basin, which can be formed within the flood control basin by constructing a separation with an earthen berm, concrete retaining wall or other divider.

The required forebay volume (V_F) is the based on the 0.15-inch rainfall using the Modified Rational Method (Eq. III-3). Please note that the design criteria below is for the permanent forebay and not for a sediment forebay used for soil erosion control during construction.

The volume of the forebay may be credited towards the total stormwater detention volume for the site.

Eq. III-19	$V_F = 545\ x\ C\ x\ A$
V_F =	Forebay volume in cubic feet
C =	Composite runoff coefficient
A =	Contributing area in acres

When calculating the volume of an irregularly shaped basin or forebay the WRC's office will use Eq. III-20 for calculating the volume of a frustum of a circular cone. The procedure consists of determining the volumes of successive layers of frustums, and then summing these volumes to obtain the total volume of the basin.

Eq. III-20	$V = \frac{H_1}{3}(A_1 + A_2 + (A_1\ x\ A_2)^{\frac{1}{2}}$
V =	Forebay volume in cubic feet
H_1 =	Difference in depth between two successive depth contours feet
A_1 =	Area of the basin within the outer depth contour being considered in square feet
A_2 =	Area of the basin within the inner depth contour being considered in square feet

1. The forebay shall be designed to dewater using the same number of orifices required for the extended detention volume.
2. A permanent standpipe with gravel filter is required for the forebay outlet control structure.
3. The forebay should have a sump at a minimum of 2 feet below the outlet to capture sediment and prevent resuspension of sediment. The bottom of the basin should slope toward the sump area to capture the sediment.
4. The forebay should also have a fixed sediment depth marker to measure the amount of sediment that has accumulated. The sediment should be removed when half of the sediment storage capacity has filled in.
5. The forebay is designed with the same general considerations given to Detention Basins. See Part G: Detention & Flood Control Facilities

Part E: Channel Protection Rate Control: Extended Detention

A portion of the flood control storage volume is designated the Extended Detention Volume (V_{ED}). The V_{ED} is intended to control approximately a 2-year rate (1.90" rainfall) to the MEP to protect channels from erosive release rates. Extended Detention also meets the Water Quality requirement. The V_{ED} is designed to release over a period of 48-hours to the MEP. The V_{ED} is calculated as follows:

Eq. III-21	$V_{ED} = 6{,}897\ x\ C\ x\ A$
V_{ED} =	Extended detention volume in cubic feet
C =	Composite runoff coefficient
A =	Contributing area in acres
Eq. III-22	$H_{ED} = \frac{V_{ED}}{4{,}666 \times \sqrt{h_{ED}}}$
H_{ED} =	Number of 1" holes needed to control the extended detention release rate
h_{ED} =	Total head on the orifices in feet

Note: This formula is used for 1" circular holes only.

Part F: Detention & Flood Control Facilities

On-site detention of stormwater runoff is required for sites as outlined in Section I. Cases where the outlet or community allows for the undetained stormwater discharge will be evaluated on a case-by-case basis. However, Water Quality and Channel Protection Volume and Extended Detention Rate Control requirements will still apply.

General Detention System Design Requirements

The required 100-year detention volume (V_{100D}) is calculated based on the following:

1. The peak 100-year inflow (Q_{100IN}) from a particular site based on:
   a. The 100-year rain event using the Modified Rational Method (Eq. III-3).
   b. Site specific time of concentration (T_c).
   c. The area shall include all post-developed, on site, areas contributing to the detention system.

Eq. III-23	$Q_{100IN} = C\ x\ I_{100}\ x\ A$
Q_{100IN} =	100-year post-development peak inflow rate in cubic feet per second
C =	Composite runoff coefficient
I_{100} =	100-year rainfall intensity
A =	Contributing area in acres

Eq. III-24	$I_{100} = \frac{83.3}{(T_c + 9.17)^{0.81}}$
I_{100} =	100-year rainfall intensity
T_C =	Site-specific time of concentration for the development in minutes

The peak allowable 100-year discharge (Q_{100P}) is the lesser of:

1. The restricted rate for the drain (ft^3/Acre)
2. The prorated share of the drain's capacity (ft^3/Acre)
3. The Variable Release Rate (Q_{VRR}) (ft^3/Acre)

Eq. III-25	$Q_{VRR} = 1.1055 - 0.206\ x \ln(A)$
Q_{VRR} =	Allowable release rate in cfs/acre (Max 1.0 ft^3/acre)
A =	Contributing area in acres

Note: The discharge rates are in ft^3/acre, for Q_{100P} multiply by A.

The modified TR-55 storage curve is used to calculate the storage curve factor (R).

Eq. III-26	$R = 0.206 - 0.15\ x \ln\left(\frac{Q_{100P}}{Q_{100IN}}\right)$
R =	Storage curve factor
Q_{100P} =	100-year post-development peak discharge flow rate in cfs
Q_{100IN} =	100-year post-development peak inflow rate in cfs

The total volume from the 100-year storm is based on Eq. 27:

Eq. III-27	$V_{100R} = 18{,}985\ x\ C\ x\ A$
V_{100R} =	Post-development 100-year runoff volume in cubic feet
C =	Composite runoff coefficient
A =	Contributing area in acres

Note: $\frac{5.23in}{12in} 1\ ft\ x\ 43{,}560\ \frac{sf}{acre} = 18{,}985\ (rounded)$

The required 100-year detention volume V_{100D} is:

Eq. III-28	$V_{100D} = V_{100R}\ x\ R - V_{cp-p}$
V_{100D} =	100-year detention volume in cubic feet
V_{100R} =	100-year runoff volume in cubic feet based on Eq. III-27
R =	Storage curve factor

Note: The Volume of Extended Detention (V_{ED}) and Forebay Volume (V_F) are counted toward the V_{100D} requirement.

General Detention Basin Requirements

1. Detention volume on a basin is defined as the volume of detention provided above the invert of the outflow pipe and calculated using Eq. III-28. Other calculation methods may be used subject to pre-approval, on a case-by-case basis.
2. Any volume provided below the invert of the outflow pipe is considered as a permanent pool of water and is not included as storage volume.
3. An irregular basin shape is preferred with flow entering the basin being evenly distributed to minimize stagnant zones. The distance between the inlet and the outlet should be maximized to obtain the greatest flow distance during periods of low flow.
4. Basin side slopes may not exceed 1 foot vertical to 6 feet horizontal for a wet basin or basins with a permanent water feature, and 1 foot vertical to 4 feet horizontal for a dry basin unless fencing is provided. Additional fencing will be required as needed, depending upon basin depth, depth of permanent pool, etc. Requirements regarding fencing will be evaluated on a case-by-case basis.
5. One foot of freeboard shall be provided above the 100-year stormwater elevation. A vertical distance of 0.50’ shall be provided between the 100-year storage elevation and the emergency overflow spillway.
6. A primary overflow structure (standpipe or overflow manhole) shall be provided with its rim set at the 100-year storm elevation.
7. All basins must be permanently stabilized to prevent erosion.
8. Adequate, unrestricted maintenance access from a public or private right of-way to the detention system must be provided. The access must be on a slope of 6:1 or less, designed to withstand H25 loading, and will provide direct access to the detention or retention facility, forebay, control structure, and outlet.
9. Detention basins constructed by building up on existing grade must have compacted berms with a clay core keyed into native soils.
10. For dry basins, the use of swales or berms, on the bottom of the basin, is required to provide positive flow to the outlet.
11. In-line detention basins are strongly discouraged and are prohibited on watercourses having an upstream watershed greater than 2 square miles or on a County Drain. In-line basins are also prohibited if the waterway to be impounded traverses any area outside of the proposed development.
12. It is recommended that a permanent buffer strip of natural vegetation extending at least 15 feet in width beyond the freeboard elevation be maintained or restored around the perimeter of all stormwater storage facilities. No lawn care chemicals should be applied within the buffer area. This requirement should be cited in the Subdivision Restrictions, Maintenance Agreement and/or Master Deed documents.
13. Basin designs must include a landscaping plan that incorporates plant species native to the local region and indicates how aquatic and terrestrial areas will be vegetated, stabilized and maintained. It is

recommended that native wetland plants shall be used in the retention/detention facility design, either along the aquatic bench, fringe wetlands, safety shelf and side slopes, or within the shallow areas of the pools.

Detention System Outlet and Overflow Structure Design

All detention systems must have a method of dewatering to the proposed bottom of storage. The use of an outlet control structure with internal weir or orifices appropriately sized to restrict the discharge rate to Q_{100P} and Q_{ED} is required. When checking the outlet rate the standard orifice equation (Eq. III-29) will be used:

Eq. III-29	$Q_p = C_O \; x \; A_O \; x \; \sqrt{2 \; x \; g \; x \; h}$
Q_P =	Allowable outflow in cubic feet per second
C_O =	Orifice coefficient (0.62 if standard opening)
A_O =	Orifice area in square feet
g =	Gravity constant (32.2 ft/s^2)
h =	Total head on orifice in feet

For outlet control sizing, the minimum orifice size is 3" without clogging protection. If a 3" diameter orifice permits discharge in excess of the allowable outflow, then a different restricted outlet design will be required, such as a weir or standpipe with stone filter. The minimum orifice size for standpipe design is 1" diameter.

The following equations will be used to check weir design:

Eq. III-30	$Q_{weir} = 3.33 \; x \; L_{weir} \; x \; h_{weir}{}^{3/2}$
Q_{weir} =	Discharge over the weir in cubic feet per second
L_{weir} =	Length of weir crest in feet
H_{weir} =	Head above the weir crest in feet

Eq. III-31	$Q_{weir} = 2.5 \; x \; h_{weir}{}^{5/2}$
Q_{weir} =	Discharge over the weir in cubic feet per second
H_{weir} =	Head above the weir notch bottom in feet

Eq. III-32	$Q_{weir} = 3.33\ x\ L_{weir}\ x\ h_{weir}^{3/2}$
Q_{weir} =	Discharge over the weir in cubic feet per second
L_{weir} =	Length of weir crest in feet
H_{weir} =	Head above the weir crest in feet

Eq. III-33	$Q_{weir} = 3.367\ x\ L_{weir}\ x\ h_{weir}^{3/2}$
Q_{weir} =	Discharge over the weir in cubic feet per second
L_{weir} =	Length of weir crest in feet
H_{weir} =	Head above the weir crest in feet

Michael R. Lindeburg, P.E., Civil Engineering Reference Manual, Professional Publications, Inc., CA, 1999

1. The outlet pipe or drainage path must be designed to carry the flow from all on-site and off-site contributing drainage areas.
2. A cut-off collar or anti-seep diaphragm may be required to be installed around the outlet pipe within the bank of the basin, depending on the depth of storage in the basin.
3. All detention basins must have an overflow structure located at the design 100-year (V_{100D}) storage elevation. This structure will route the stormwater past the restrictor in emergency situations. The overflow must have the capacity to pass the 10-year on-site flow plus the off-site tributary flow. The overflow structure shall have a bar screen or trash hood.
4. All detention basins must also have an emergency overflow structure or spillway. The emergency overflow invert shall be set at the 100-year elevation plus 0.5 ft and be sized to convey the 100-year peak detention pond inflow rate plus the offsite tributary flow.
5. Calculations supporting the primary and secondary emergency overflow hydraulic capacities shall be submitted for review. An adequate flow path for detention system overflow (including easements, if necessary) shall be detailed in the site plan.
6. Use of a pumped outlet is discouraged. However, if no feasible gravity outlet is available, stormwater pump stations with emergency backup generators may be used.
7. For storm drain systems being established as Chapter 18 Drains, the restrictive orifice outlet must be grouted inside a minimum 12” diameter pipe located downstream of the Extended Detention standpipe. The restrictor must be sized for the on-site flow that is tributary to the basin. The basin overflow structure shall be sized to pass the on-site flow and the off-site tributary flow. Please see Section IV Chapter 18 Drains, for additional design requirements.

Underground Detention Facilities

1. Underground detention facilities may be allowed on sites where traditional stormwater management measures are not feasible. Each site will be evaluated on an individual basis.
2. Complete details, calculations and specifications must be submitted for the facility. The underground facility must comply with all standards imposed on traditional facilities; including, but not limited to, a restricted outlet, overflow structure, overflow route, and a perpetual maintenance plan.
3. Due to the difficulty of removing silt and sediment from the aggregate, the void space of the aggregate bedding and backfill around the underground detention facilities will not be considered as detention volume.
4. Underground detention facilities are prohibited in developments where the storm water detention facilities are under the jurisdiction of this office.

Utilizing Wetlands, Waterbodies and Natural Low Areas as an Ultimate Outlet

1. Prior to approval of any proposed plan to use existing wetlands or waterbodies for detention purposes, permits from the appropriate state and local agencies must be obtained. Proof of such permits must be submitted.
2. Calculations must be submitted that indicate the stage rise of the wetland or waterbody due to the developed runoff. Each site is entitled to their pro-rata share of the capacity of the wetlands.
3. A freeboard elevation must be established at one foot above the calculated stage rise.
4. The stage rise should be calculated from the ordinary high-water elevation.
5. There shall no direct discharge of stormwater to wetlands. The discharge must be routed through an upstream forebay or mechanical treatment device, followed by a level spreader or rip rap, on the wetland fringe, prior to discharging to the wetlands.
6. A natural buffer strip is required around the perimeter. A drainage easement that encompasses the entire area on site, including freeboard and buffer strip, will be required. In addition, off site easements may be necessary due to the increase in impoundment height.
7. The character of the wetlands must not be altered by the addition of the storm water. A control structure must be constructed at the outflow of the wetland area to release stormwater at a restricted rate as determined by these rules. The wetland must return to its normal water level within 48 hours.
8. Stormwater runoff directed to natural low areas will be considered the same as retention. The area must have the capacity to hold two consecutive 100-yr storm events and have a designated overflow route. Each site adjacent to the wetlands is entitled to their pro-rata share of the capacity of the depression for the land area tributary to it. A drainage easement that includes the entire area, including off-site properties, encompassing the freeboard elevation will be required.

Retention Basin Design

A “no-outlet” retention basin is only permissible subject to certain conditions that include, but are not limited to, the following:

1. There is no other available positive outlet for the stormwater runoff from the property. Every effort should be made to provide a means to de-water the basin, including a pump outlet and possible downstream improvements.
2. The Volume of the Retention Basin is calculated as follows:

Eq. III-34	$V_{RB} = (18{,}985\ x\ C\ x\ A\ x\ 2) - V_C$
V_{RB} =	Total retention basin volume in cubic feet
C =	Composite runoff coefficient
A =	Contributing area in acres
V_c =	Volume of 100% BMP Credit in cubic feet

3. The permeability of the soils shall follow all requirements set forth for large BMPs with the exception of the following:
   a. The Basin shall be able to dewater a 100-year storm (V_{100R}) within 72 hours based on the infiltration rates.
   b. When calculating the volume of storage, no credit will be given for infiltration volume within the basin. However, infiltration volume from upstream BMPs may be credited towards the total retention volume required.
4. An infiltration trench is not considered an acceptable substitution for permeable soils.
5. The general requirements for retention basins shall follow the requirements for detention basins.
6. An overflow route from the retention basin must be provided. Elevations of surrounding buildings, development or other features that would be impacted by a basin overflow must be indicated. The overflow route may not endanger any existing structures or features. Downstream drainage easements may be required for the overflow route.
7. The proprietor must submit a soil boring log taken within the basin bottom area to a depth of 25 feet below existing ground or 20 feet below proposed basin bottom elevation.
8. WRC reserves the right to require additional storage up to that required by two consecutive 100-year storm events based on the results of soils data or the overflow assessment.

Part G: Maintenance Requirements

An executed Stormwater Management Operations and Maintenance Agreement for the proposed stormwater system shall be submitted prior to this office granting final approval of the development. The WRC will not accept the responsibility for the maintenance of any stormwater system unless it is being constructed as part of a County Drain.

The maintenance plan must include the following:

1. The locations of all the stormwater system components, structures and BMPs
2. Specific maintenance requirements for the stormwater components including the required inspection cycle, personnel, training, inspection activities, and preventative maintenance required to ensure that the stormwater system functions properly.
3. The owner shall retain the services of a qualified individual, which may include a Licensed Professional Engineer, Certified Professional in Storm Water Quality (CPSWQ), NICET Certified Engineering Technologist in Stormwater and Wastewater System Inspection, or EGLE Certified Stormwater Operator (NPDES construction sites) to provide inspection and maintenance services.
4. A log of all inspections, maintenance activities and repairs are required. The log must provide, the date of activity, name of person performing activity and the description of activity performed.
5. Provisions for establishing and maintaining vegetation that is integral to the proper functioning of the stormwater system.
6. Identify the entity responsible for the maintenance and/or repair of the stormwater system, including modifying or reconstructing the system, if the system does not function as designed.
7. A schedule for implementing the activities necessary for proper functioning of the system.
8. A maintenance agreement must allow the local government the right to access, inspect, and maintain the stormwater system. The maintenance agreement shall allow the local community to complete the following:
    a. Inspect the structural or vegetative BMPs;
    b. Perform necessary maintenance or corrective actions neglected by the BMP owner
    c. Track the transfer of the operation and maintenance responsibility of the BMP in the event ownership of the property changes.
9. A copy of the Stormwater Management Operations and Maintenance Agreement or Memorandum of Stormwater Management Operations and Maintenance Agreement shall be recorded at the Register of Deeds.
10. A copy of the executed agreement of memorandum must be submitted prior to WRC's approval of the plans.
11. An example of the Agreement is included in the Appendix.

Part H: Drains Under the Jurisdiction of the Water Resources Commissioner

When a County Drain is the proposed outlet for a site's storm drainage system, the standards outlined herein regarding stormwater storage volume and allowable outflow must be followed. There may be cases where the existing outlet has limitations due to downstream conditions. In this situation, the discharge from the site will be restricted to conform to the governing downstream conditions. The allowable outflow from the proposed site will be limited to the pro-rata share of the capacity of the drain. The site's pro-rata equitable share of the outlet capacity should be calculated and shown on the construction plans.

There may also be cases where the outlet has already reached capacity. The burden is on the developer/proprietor to design and construct, at his expense, any necessary improvements to the downstream outlet. Such designs will be reviewed by the WRC office for adequacy.

Locations, easements and drainage service area boundaries for County Drains are available from the WRC Office. Permanent structures may not be constructed within the easement of a County Drain. This includes stormwater storage facilities or BMPs. All basins and BMPs must be located entirely outside of the County Drain permanent easement.

Easements

1. Prior to 1956, County Drain easements were not required by statute to be recorded with the County Clerk; it was legally sufficient to have them on file at the drain commissioner's office. Therefore, it is necessary to check the permanent records of the Water Resources Commissioner's Office to see if a drain easement is in existence on the subject property.
2. It may be necessary to record a new easement for that part of the County Drain that traverses the site. The existing easement may be abandoned in consideration for the granting of the new easement.
3. For open ditch drains, the easement must be at minimum, wide enough to include the extreme width of the open ditch drain plus 15' on each side measured from the top of bank. In addition, a vegetated buffer strip may be required. For enclosed drains, the easement must be a minimum of twenty (20) feet centered on the centerline of the pipe. However, larger pipe size, certain soil conditions, or depth of pipe may require larger easement widths.
4. The proposed easement must be submitted to this office for review. Upon completion of the project, the owner's engineer is required to provide the WRC Right-of-Way Department with an existing or "as-built" metes and bounds centerline description of the entire length of the drain through the referenced property. Upon submittal of the description, along with proof of property ownership, WRC Right-of-Way Department will prepare the necessary documents for execution by the owner(s).

5. This office must also be provided with one set of digital As-Built engineering drawings, cleaned of all background debris, showing plan, profile and the new easement of the drain.
6. Proposed County Drain easements shall be indicated on the plans as well as the mylar plat and shall be designated as 'permanent private easement for the "Name" (County) Drain'. In addition, the following note must be added to the mylar plat:
    a. The use of the word "private" does not limit in any way the scope of the easement granted to the "Name" (County) Drain Drainage District"

Drainage Service Areas (Districts)

1. A Drainage Service Area and Special Assessment District are each a legally established boundary for the area served by a County Drain. Drainage Service Areas do not always match the topographical area tributary to a County Drain. Drainage Service Areas shall not be violated when designing a drainage system.
2. Alterations to a Drainage Service Area and/or a Special Assessment District may be made by following the procedure established in the Drain Code. Approval must be granted by the Water Resources Commissioner or the Drainage Board.

Connections to County Drains

1. Taps to pipe and manholes shall be cored (sawed) wherever possible. If the tap cannot be cored, the proposed opening shall be star-drilled or cut with a concrete saw to establish a diameter prior to using a hammer to make the tap opening.
2. All taps shall be located to provide a minimum of one foot of manhole wall between tap openings.
3. Taps to manholes shall be pointed on the inside of the structure.
4. Taps shall be cut flush with the inside wall of the manhole and not protrude into the structure.
5. Depending on the location of the tap, manhole steps may need to be relocated at the applicant's expense.
6. No taps are allowed at a pipe joint.
7. Taps to open channel drains shall have a flared end section installed on a 42" minimum depth concrete footing. Taps 18" and larger to open channels shall have bar screens.
8. Riprap shall be installed at all outlets according to the Oakland County Water Resources Commissioner's Storm Drain Notes and Details Sheet. Riprap may consist of 8" to 15" diameter fragmented limestone or other suitable rock on a stone bedding underlain with geotextile fabric. Cobblestone, broken concrete or grouted riprap are not acceptable. Larger diameter outlets may require larger riprap as velocity and flow conditions dictate.
9. In areas where local ordinance requires sump pump leads to be connected into an enclosed system, these taps shall be made directly into storm sewer structures or into cleanouts.

10. Sump pump lines and connections shall not fall under the long-term operation and maintenance of the Water Resources Commissioner's Office and will not become part of an established County Drain. Maintenance of such lines will be the responsibility of the property owners and shall be so specified in subdivision restrictive covenants or condominium master deed agreements.

Crossing County Drains

1. A minimum clearance of 5 feet is required between open swale/ditch inverts and underground utilities unless special provisions are employed. Special provisions include encasement of utility lines in concrete or installation of the utility inside a steel casing when crossing under the open channel.
2. All bridges shall be designed to provide a 2-foot minimum flood stage freeboard to the underside of the bridge. The bridge footings shall be deep enough to be below the frost line and to allow a 5-foot channel deepening. Bridge footings and columns may not be located within the open channel.
3. A minimum clearance of 18 inches from the outside wall of an enclosed County Drain to any proposed utility or other underground crossing of the drain shall be provided.

Soil Erosion and Sediment Control

Soil erosion and sediment control devices shall be installed as required by the Water Resources Commissioner's "Erosion Control Manual" within municipalities where the Soil Erosion and Sedimentation Control Program is administered by WRC. The following points should be kept in mind when designing an erosion control plan for a site:

1. Areas within open drain rights-of-way, which have been cleaned, re-shaped or in any manner disturbed shall be seeded and mulched or otherwise vegetated.
2. The smallest practical area of raw land should be exposed at one time during development.
3. When raw land is exposed during development, the exposure should be kept to the shortest practical period of time.
4. Temporary vegetation and/or mulching should be used to protect critical areas exposed during development.
5. The permanent final vegetation and structures should be installed as soon as practicable in the development.
6. The development plan should be fitted to the topography and soil type so as to create the least erosion potential.
7. Wherever feasible, natural vegetation should be retained and protected.

   Proposed BMP locations should be protected at all times during construction to prevent sedimentation and compaction of soils that could lead to underperformance or failure of BMPs. This includes but is not limited to stabilizing surfaces adjacent to BMPs and installing temporarily erosion and sedimentation control structures at outlets to BMPs.

Part I: Assets Under Local Jurisdictions

For discharges into a non-county asset, some communities may have more restrictive standards than presented herein and those standards would supersede these standards. For all non-county assets, it is recommended that designers still consider the following when designing their stormwater management systems to local jurisdiction codes:

- Verify adequate outlet to community watercourses or pipes.
- Consider all potential hydraulic restrictions at outlet and assume full tailwater conditions when calculating release rates from basins and hydraulic grade line through the pipe network.
- Provide vertical separation (recommend two feet) between site stormwater design and receiving pipe or open watercourse.
- Verify the drainage area that will trigger a stormwater review (some communities might have a threshold lower than 1 acre).
- Determine whether the development is within a stormwater master planning area that could impact site specific standards for water quality and peak flow control.

Section IV – Chapter 18 Drains

The purpose of this standard is to guide the Owner/Developers of new developments within Oakland County communities which require drainage systems to be established as County Drains in accordance with the provisions of Section 433, Chapter 18 of the Public Acts of 1956, as amended, the Michigan Drain Code.

Plan requirements shall follow those identified in Section III for Subdivision Construction Plans with the following additions:

1. A plan and recommended schedule for the perpetual maintenance of the complete storm drainage system. Note that a Stormwater Management Operation and Maintenance Agreement is not required for Chapter 18 County Drains.
2. An access road shall be provided for all forebay and detention/retention facilities. The access road shall be designed to support heavy equipment (H25 loading).

Design of the Chapter 18 Drain shall follow the criteria set forth in Section III, WRC Specification Materials-Storm Drain, and WRC Drain Standard Detail Sheet, with the following additional requirements:

Pipe:

- 12” Minimum Pipe Size
- 10-Year Storm Design
- Hydraulic Grade Line in Pipe
- Velocity Less than 10 f.p.s.

Sump Pump:

- Serving More than One (1) Dwelling Unit 8” Minimum Size
- Minimum Size for House Leads is 4”
- All Connections to Storm Drains are Pre-manufactured
- Refer to WRC Drain Standard Detail Sheet

In areas where local ordinance requires sump pump leads to be connected into an enclosed system, these taps shall be made directly into storm sewer structures or into cleanouts.

Sump pump line connections shall not fall under the long-term operation and maintenance of the Water Resources Commissioner's Office and will not become a part of an established County Drain. Maintenance of such lines will be the responsibility of the property owners, and shall be so specified in the subdivision restrictions or condominium master deed agreements.

Stormwater Basins:

Please refer to the equations in Section III-General Detention System Design Requirements

Outflow from Basin

Outflow will be restricted per Section III. Downstream effects of storm water discharge will be the major consideration in sizing the outlet.

Outlets

Riprap shall be installed at all outlets according to the WRC Storm Drain Notes and Details Sheet. Riprap may consist of minimum 8" diameter to 15" diameter fragmented limestone or other suitable rock underlain with geotextile fabric. Cobblestone, broken concrete or grouted riprap is not acceptable. Larger diameter outlets may require larger riprap as velocity and flow conditions dictate.

A bar screen is required for all pipe outlets and inlets 18" diameter and larger.

Stormwater Treatment

1. Sediment forebays or manufactured stormwater treatment systems with external by-pass, and/or L.I.D. practices may be considered for stormwater treatment, but subject to OCWRC approval
2. The manufactured stormwater treatment system shall conform to the standards set forth and certified by the New Jersey Department of Environmental Protection (NJDEP) as listed at http://www.njstormwater.org/treatment.html, including offline use, manhole diameter size, and custom or multiple units.
3. The NJDEP Certified Treatment Flow rate (cfs) for a manufacturer and model shall be higher than the calculated peak discharge (qp) for a particular site.
4. Only the manufactured stormwater treatment systems specified in WRC specification Materials-Storm Drain are approved for County Drains.

.

NOTE: All drainage systems will be evaluated on a case-by-case basis. Local conditions/ requirements/situations may cause exceptions to the above requirements, the published Design Criteria for Subdivisions, Standard Details or other rules which may apply.

Part B: Easement Requirements

The Developer and/or Land Owner shall provide to this office permanent easements for the proposed County Drain drainage facilities. Easement requirements vary with the type of site being developed. If the site is a platted subdivision, the easements must be shown on the final digital plat and the standard WRC easement language must be included in the Deed Restrictions. If the site is a condominium development, the easements must be shown on the "Exhibit B" drawings and the standard WRC easement language must be included in the Master Deed. A copy of the proposed Deed Restrictions/Master Deed must be submitted to this office for review. A recorded copy must be on file at this office prior to the final construction plan approval.

Easement requirements are as follows:

1. The minimum acceptable easement for a storm drain shall be 20 foot wide. Extreme depth and/or large pipe may require a wider easement.
2. The minimum acceptable easement for 8" diameter sump pump lines shall be 12 foot wide.
3. The minimum acceptable easement for a detention/retention basin shall be 12 feet from the high water elevation or at the one (1) foot freeboard elevation, but may not be less than 12 feet.
4. Language for Subdivision Plats (Must be on Final Digital):
5. Use of the word "private" does not limit in any way the scope of the easement granted to the Name (County) Drainage District.

WRC reserves the right to modify the easement requirements at its discretion.

Typical Easement for Subdivision

The following language shall be included in the deed restrictions for the subdivision:

. . . subject to a perpetual and permanent easement in favor of the Oakland County Water Resources Commissioner, the _____ Drainage District, a Michigan statutory public corporation as represented by the Oakland County Water Resources Commissioner (referred to as "grantee") and grantee's successors, assigns and transferees, in, over, under and through the property described on Exhibit A (or plat, liber, page) hereto, which easement may not be amended or revoked except with the written approval of grantee, and which contains the following terms and conditions and grants the following rights:

1. The easement shall be for the purposes of developing, establishing, constructing, repairing, maintaining, deepening, cleaning, widening and performing any associated construction activities and grading in connection with any type of drainage facilities or storm drain in any size form, shape or capacity;
2. The grantee shall have the right to sell, assign, transfer or convey this easement to any other governmental unit;

3. No owner in the subdivision shall build or convey to others any permission to build any permanent structures on the said easement;
4. No owner in the subdivision shall build or place on the area covered by the easement any type of structure, fixture or object, or engage in any activity or take any action, or convey any property interest or right, that would in any way either actually or threaten to impair, obstruct, or adversely affect the rights of grantee under the said easement;
5. The grantee and its agents, contractors and designated representative shall have right of entry on, and to gain access to, the easement property;
6. It is understood that under Michigan law, the Drainage District is comprised of all of the owners of the subdivision and that any and all expenses, claims or damages in any way arising from or incident to the construction, operation and maintenance of the drain and easement will be assessed against the Drainage District.

The rights granted to the Oakland County Water Resources Commissioner, the _____ _____ Drainage District, and their successors and assigns, under Section _____of these restrictions may not, however, be amended without the express written consent of the grantee hereunder. Any purported amendment or modification of the rights granted thereunder shall be void and without legal effect unless agreed to in writing by the grantee, its successors or assigns.

Typical Easement for Condominium

The following language shall be included in the deed restrictions for the condominium complex:

> . . . subject to a perpetual and permanent easement in favor of the Oakland County Water Resources Commissioner, the _____ Drainage District, a Michigan statutory public corporation, as represented by the Oakland County Water Resources Commissioner (referred to as "grantee"), and grantee's successors, assigns and transferees, in, over, under and through the property described on Exhibit A hereto, which easement may not be amended or revoked except with the written approval of grantee, and which contains the following terms and conditions and grants the following rights:
>
> 1. The easement shall be for the purposes of developing, establishing, constructing, repairing, maintaining, deepening, cleaning, widening and performing any associated construction activities and grading in connection with any type of drainage facilities, storm drains or related appurtenances, in any size form, shape or capacity;
> 2. The grantee shall have the right to sell, assign, transfer or convey this easement to any other governmental unit;
> 3. No owner in the condominium complex shall build or convey to others any permission to build any permanent structures on the said easement;
> 4. No owner in the condominium complex shall build or place on the area covered by the easement any type of structure, fixture or object, or engage in any activity or take any action, or convey any property interest or right, that would in any way either actually or threaten to impair, obstruct, or adversely affect the rights of grantee under the said easement;

5. The grantee and its agents, contractors and designated representatives shall have right of entry on, and to gain access to, the easement property;
6. It is understood that under Michigan law, the Drainage District is comprised of all of the owners of the condominium complex and that any and all expenses, claims or damages in any way arising from or incident to the construction, operation and maintenance of the drain and easement will be assessed against the Drainage District.

The rights granted to the Oakland County Water Resources Commissioner, the _____ _____ Drainage District, and their successors and assigns, under Section _____ _____of this master deed may not, however, be amended without the express written consent of the grantee hereunder. Any purported amendment or modification of the rights granted thereunder shall be void and without legal effect unless agreed to in writing by the grantee, its successors or assigns.

Part C: Request to Establish a County Drain

The Developer must first submit to this office one set of electronic construction plans and one digital copy, sealed by a Licensed Professional Engineer, for the proposed development along with a letter requesting that the development's drainage facilities be established as a County Drain. WRC's Engineering Design Standards for Storm Water Facilities and Standard Details for (County) Drains must be followed when designing the drain.

Submission of the following information is required:

a. Request to establish the _____ County Drain.
b. Engineer's certification of the adequacy of the drainage outlet.
c. Title work for the property being served by the Drain.
d. Names, titles, addresses or parties to execute the Drain Agreement.
e. Unified/Single property description with acreage, sidwell number(s) and a survey closure document.
f. Construction cost estimate for all drainage facilities.
g. All applicable fees and deposits.
h. Signed Deed Restrictions with County Drain language.
i. Maps and legal description of any right of ways or off site easements that may be necessary for drainage facilities.

Plan Submittal

Plan submittal must be in accordance with the regulations of the municipality where the development is located. It is the responsibility of the Developer to contact the municipality and confirm whether plans should be submitted directly to WRC or to the municipality first.

This office will review the construction plans and a determination will be made as to the adequacy of the design with respect to the Oakland County Water Resources Commissioner's requirements and to applicable laws and standards. If the local municipality has more stringent standards, then the municipality standards shall govern. Revisions to the plans or additional information may be requested at this time.

Final construction plan approval will not be granted until the Agreement is executed and all required documents and fees have been received. This office will issue a letter of construction approval with conditions. If the conditions as set forth in our construction plan approval letter are met, this office will then provide construction inspection of the drainage facilities. Construction of the storm drain system may not begin until the construction plans have been approved. After the construction plans have been approved, this office will process the final subdivision plat as set forth in the Subdivision Control Act of 1967, as amended.

In the case where the Chapter 18 Drain development will be a platted subdivision, the procedures for a preliminary and final plat must also be followed.

Agreement to Establish a County Drain

Upon approval of the construction plans by this office, the Developer and/or Land Owner of Record must enter into an agreement to establish the new County Drain or Branch Drain of an existing legally established County Drain. A district enlargement may also be necessary for the Branch Drain. The Developer and/or Land Owner must provide this office with a copy of the Title Policy or other proof of land ownership. A metes and bounds property description, with closure and Sidwell numbers, an estimate of the proposed construction cost of the drainage facilities, and the names, titles, addresses and companies of the people who will execute the Agreement shall also be submitted.

Once this office has received all of the above information, we will prepare an Agreement for signature by the involved parties. After the Agreement has been signed by all parties and notarized, the Water Resources Commissioner will have the Agreement recorded with the Oakland County Clerk's Office. The Agreement must be executed prior to construction plan final approval.

Engineer's Certification Outlet

Prior to approval of the construction plans, the Developer's Engineer must certify that the outlet for the proposed drain is adequate and will not cause detriment or diminution of the drainage services it now provides. An example of the Engineer's Certificate may be found in the Appendix.

Fee Schedule

Administrative Costs	1% but not less than $1,050.00	$	_____
Maintenance Fund	5% but not to exceed $2,500.00	$	_____
Inspection Deposit	To be calculated	$	_____
Contingency Deposit	10% of Drain construction estimate	$	_____

Note: Fees are based on percentage of storm drain system construction cost. All fees are in cash. Make checks payable to the Oakland County Water Resources Commissioner. Please indicate the name of the project or Drain on the check

Part D: Inspections

This office will provide full time construction inspection of the storm drain system. Drainage facilities constructed without appropriate inspection by this office or its designated representative may not be accepted by this office as a County Drain.

The Developer and/or Land Owner are responsible for the liabilities, operation and maintenance of the storm drainage system until it is accepted for service by the Water Resource Commissioner's Office.

This office or its designated representative will perform daily inspection of the storm drainage facility construction. This is to ensure that the storm drainage system is constructed according to the plans and specifications approved by this office.

This office will issue a series of construction inspection approvals at several milestones of the project, which will indicate that the contractors have successfully completed various phases of the construction.

WRC's Inspection Department must be notified **3 WORKING DAYS** prior to commencing construction and for all acceptance inspections.

Full time inspection is required for all aspects of storm drain construction.

The system must be constructed in accordance to the Oakland County Water Resources Commissioner's specifications.

All field changes must be **PRE-APPROVED** by the Oakland County Water Resources Commissioner prior to installation.

First Inspection

The purpose of the Construction Inspection approval is to release the underground contractor from responsibility of damage to the underground drainage system by others during future construction on this project site:

Requirements of the First Inspection:

a. All pipes and structures are to be free of dirt and debris.
b. Structures must be complete, plastered or pointed, channels, benches and castings in place.
c. All inlets and outlets must be completed with riprap in place.
d. All storm water detention/retention facilities and forebays must be constructed and stabilized.
e. All erosion control measures in place as well as a stated policy to maintain the soil erosion controls.
f. The storm drainage system must be completed and fully functional.

Second Inspection

The Second Inspection will be performed after the pavement has been completed. The purpose of the Second Inspection is to relieve the Pavement Contractor from responsibility for future damage to the storm drainage system.

Third Inspection

The purpose of the Third Inspection is to accept the drainage system for conditional maintenance and operation by the Oakland County Water Resources Commissioner and to relieve the Developer and/or Land Owner from the responsibility for maintenance of the storm drainage system.

The Developer and/or Land Owner are still responsible for the systems integrity until the completion of the final accounting and acceptance by the Oakland County Water Resources Commissioner.

All easements for the operation and maintenance of the County Drain including "Exhibit B" drawings, offsite drainage easements and recorded Deed Restrictions or a Master Deed with the appropriate drain easement language, along with As-Built plans for the Drain, must be submitted to this office and approved prior to this office scheduling the Third Inspection.

The Third Inspection will consist of a thorough and complete inspection of the entire storm drain system. A punch list of any outstanding construction items will be prepared and forwarded to the Developer and/or Developer's representative for resolution. Once these punch list items have been addressed and corrected, then a Third Inspection approval may be issued.

The Third Inspection can be scheduled after the following requirements have been met:

a. All disturbed areas have been re-vegetated and that the right of ways and all easements, detention basins, forebays and swales are sodded or vegetated with an approved plant material. All easement area vegetation must be established.
b. That the local governing body has no objections to the finalization of the project.
c. That there are no outstanding soil erosion issues and no history of poor soil erosion practices by the Developer and/or Land Owner.
d. All required documents and fees have been submitted and approved.

Final Acceptance

One year after conditional acceptance of the Drain for operation and maintenance, the Developer is allowed to request, in writing, that a final accounting be made by this office. The project will be reviewed by this office and our Inspection Unit will perform a final walk through inspection of the Drain if the following requirements have been met:

a. All conditions of the Agreement are satisfied.
b. The drain is functional and serviceable.
c. There are no outstanding liens or judgements against the storm drainage system.
d. A Developer's Declaration and Developer's affidavit are on file in this office.

If all the requirements have been met, a final accounting will be performed and a letter of final acceptance will be issued along with any remaining refundable deposits.

Please note that if the Developer fails to complete the requirements of the Agreement, the project will be declared abandoned, and the storm drainage system will not be maintained by the Oakland County Water Resources Commissioner's Office and all deposit moneys will be forfeited.

Part E: As-Built Drawings Requirements

Immediately following the completion of construction, the Developer and/or Land Owner shall furnish this office with a set of As-Built Drawings corrected to indicate as-built conditions. Upon approval of these drawings, the Developer and/or Land Owner shall submit one (1) set of reproducible drawings and one digital copy of the as-built construction drawings.

The following information shall be required on the as-built drawing and digital copy of the construction plan of the drain:

1. A Cover Sheet, which includes:
   a. Drain Name
   b. Location map with north arrow
   c. Drainage District (Property) legal description
   d. Storm sewer pipe manufacturer (type, class & joint)
   e. Manhole manufacturer
   f. Casting type and manufacturer
   g. Fitting type, class and manufacturer
2. A General Site/Utility Plan with boundary designation
3. A Grading Plan, which includes:
   a. Storm sewer as-built rim elevations
   b. As-built contours of all detention or retention basins and BMPs
   c. The location and permanent easement of all basin access drives
4. Plan and Profile views of all storm sewer 12” diameter and larger, which includes:
   a. As-built pipe length and slope
   b. As-built rim and invert elevations
   c. Show the sump pump lead locations on the plan view
   d. Road culverts with as-built information
   e. Top of pipe or invert elevation of the utility for all utility crossings. There should be a minimum of 18” clearance between the storm sewer and the utility.
   f. Note any special bedding, undercutting or piling extent and depth
   g. The term AB should follow all verifications.
5. A Drainage Area Map Sheet
6. Hydraulic calculations for storm sewer pipe and design calculations for all detention or retention basins, basin overflow structures and drainage swales. The as-built volume of all basins must be calculated.

The as-built plans must be submitted and approved prior to the third inspection being scheduled.

Appendices

Appendix A: Terms and Definitions

100-Year Storm: A rainfall depth that has a 1% chance of being exceeded in a given year.

10-year Storm: A rainfall depth that has a 10% chance of being exceeded in a given year.

1-year Storm: A rainfall depth that has a 100% chance of being exceeded in a given year.

90th Percentile Storm: A rainfall depth in which 90 percent of the rainfall events that produce runoff will be less than or equal to this depth.

Aquatic Bench or Safety Shelf: A bench, usually 4-feet to 5-feet wide, that is constructed around the inside perimeter of a permanent pool with depths that range from 0 inches to 12 inches. Typically vegetated with emergent plants, the bench augments pollutant removal, provides habitat, conceals trash, changes in water level, and enhances safety.

Bankfull Flow: A condition where flow completely fills the stream channel to the top of the bank. In undisturbed watersheds, this occurs on average every 1 to 2 years and controls the shape and form of natural channels.

Best Management Practice (BMP): Structural and non-structural practices and techniques that mitigate the adverse impacts caused by land development on water quality and/or water quantity.

1. **Buffer Strip:** A zone that is used for filtering direct stormwater and stormwater runoff into a stormwater management system and for providing maintenance access to a stormwater management system.
2. **Cistern:** Containers that store large quantities of stormwater above or below ground. They can be used on residential, commercial, and industrial sites.
3. **Dry well:** Small infiltration pits or trenches filled with aggregate that receive clean runoff primarily from rooftops.
4. **Green infrastructure (GI):** Management of wet weather flows using BMPs that use or mimic natural processes and result in improved water quality, evapotranspiration, or infiltration. This is a cost-effective, resilient approach to managing wet weather impacts that provides many community benefits, and reduces and treats stormwater at its source while delivering environmental, social, and economic benefits.
5. **Green Roof:** Conventional rooftops that include a thin covering of vegetation allowing the roof to function more like a vegetated surface. The layer thickness varies between 2-6 inches and consists of vegetation, waterproofing, insulation, fabrics, growth media, and other synthetic components.
6. **Pervious Pavement:** An infiltration technique that combines stormwater infiltration, storage, and structural pavement that consists of a permeable surface underlain by a storage reservoir.
7. **Planter Box:** A device containing trees and plants near streets and buildings constructed to prevent stormwater from directly draining into drainage systems.

8. **Pretreatment System:** A structure, feature, or appurtenance, or combination thereof, that is used as a component of a stormwater management system to remove incoming pollutants from stormwater.

9. **Riparian Buffer:** An area next to a stream, river, or lake that preserves water quality by filtering sediments and pollutants from stormwater before it enters the water body. It also protects banks from erosion, provides natural storage for flood waters, preserves open space, and provides habitat for wildlife. Development is often restricted or prohibited in this area. The buffers should be vegetated with herbaceous and woody native plants, or left in their natural state.

10. **Vegetated Filter Strip:** Uniformly graded vegetated surface located between pollutant source areas and downstream receiving waters.

11. **Vegetated Swale:** A conveyance, open to the atmosphere, consisting of a broad, shallow channel lined with vegetation to slow and filter stormwater runoff and promote infiltration. (Note: this swale has no in-soil storage)

12. **Bioretention:** A water quality practice that utilizes landscaping plantings and soil media to treat stormwater runoff by collecting it in shallow depressions before being absorbed by the soil and vegetation. There are three main types of bioretention.

    a. **Rain Garden:** A small, simple bioretention system associated with single family homes or small commercial development. This system has no regulated infiltration rate and as such only qualifies for the water quality requirement. However, as such this system does not require infiltration testing to construct or maintain.

    b. **Bioretention Basin:** A large bioretention system associated with commercial and industrial development. This system has water quality, volume reduction capabilities, and requires infiltration testing.

    c. **Bioretention swale:** A linear bioretention system associated with stormwater conveyance and Check Dams to slow, filter, and infiltrate the stormwater. This system has both water quality and volume reduction capabilities and requires infiltration testing.

CFS: Cubic feet per second.

Check Dam: A crushed rock or earthen structure used in vegetated swales to reduce water velocities, promote sediment deposition, and enhance infiltration.

Closed Conduit: An enclosed conveyance system designed to carry stormwater runoff such that the surface of the water is not exposed to the atmosphere, including without limitation, storm sewers, culverts, enclosed County drains, and pipes.

Construction Activity: A human-made activity, including without limitation, clearing, grading, excavating, construction and paving, that results in an earth change or disturbance in the existing cover or topography of land, including any modification or alteration of a site or the “footprint” of a building that results in an earth change or disturbance in the existing cover or topography of land.

Conveyance: Any structure or other means of safely conveying stormwater or stormwater runoff within a stormwater management system, including without limitation, a watercourse, closed conduit, culvert, or bridge.

County Drain: Drains established pursuant to the Michigan Drain Code of 1956, MCL 280.1 et seq., as amended, that are under the jurisdiction of the WRC.

Culvert: A structure, including supports, built to carry a feature over a surface water or watercourse, with a clear span of less than 20 feet measured along the center of the feature being carried.

Design Storm: The rainfall event used as the basis of design for stormwater drainage facilities.

Design Water Level: The water surface elevation in a detention system at which the storage volume in the system (above the permanent pool water level, if any) equals the required flood control storage volume.

Detention System: A component of a stormwater management system, either aboveground or belowground, that detains stormwater and stormwater runoff. Detention systems can be classified as follows:

1. **Dry Detention Basin:** A basin that remains dry except for short periods following rain storms or snow melt events.
2. **Extended Dry Detention Basin:** A dry detention basin that has been designed to increase the length of time that stormwater will be detained beyond the normal dewatering time of 24-48 hours.
3. **Wet Detention Basin:** A basin that contains a permanent pool of water that will effectively remove nutrients in addition to other pollutants.
4. **Extended Wet Detention Basin:** A wet detention basin that has been designed to increase the length of time that stormwater will be detained beyond the normal dewatering time of 24-48 hours.
5. **Regional Detention Basin:** A wet or dry detention basin that receives water from multiple sites as an alternative to storage on-site.
6. **Underground Detention System:** One or more underground pipes and/or other structures that are utilized as a detention system.
7. **Constructed Wetland:** An open detention basin that uses a variety of water depths and wetland plants to provide pollutant removal and provide temporary storage of stormwater runoff to prevent downstream flooding and the attenuation of runoff peaks.

Discharge: The flow rate of water passing through the outlet at a given time, usually expressed as cubic feet per second (CFS).

Disturbed Area: An area where human activity has removed or altered the natural vegetative soil cover and the soil is susceptible to erosion.

Drainage Area: The entire upstream land area from which stormwater runoff drains to a particular location, including any off-site drainage area.

Detention time: The time required for the gradual reduction in water level in a BMP due to the combined effect of infiltration, evaporation and discharge from the peak or storage to full dewatering to the lowest outlet elevation. (i.e. in a bioretention area this would include dewatering of the soil media)

Easement: A legal right, granted by a property owner to another entity, allowing that entity to make limited use of the property involved for a specific purpose. Easements are recorded on the title to the land and transfer with the sale of land.

Emergency Spillway: A channel constructed in the embankment of an open detention or retention basin that is used to control flows in excess of the overflow structure capacity to prevent erosion of the berm.

Floodplain: For a given flood event, that area of land adjoining a continuous watercourse that has been covered temporarily by water. This design standard, the term floodplain includes all physical floodplains weather or not they have been officially mapped by FEMA.

Flow Path: The distance that a parcel of water travels through a stormwater detention pond or wetland. It is defined as the distance between the inlet and outlet, divided by the average width. [defines the time of concentration calculation] – or just move it to the Tc definition.

Flow Restrictor: A structure, feature, or device in a detention system or pretreatment system that is used to restrict the discharge from the system for specified design storm(s).

Forebay: A small, separate storage area near the inlet to a detention basin, used to trap and settle incoming sediments before they can be delivered to the basin.

Freeboard: The vertical distance from the design water level to the top of the embankment of an open detention basin or retention basin.

French Drain: A subgrade drain consisting of a trench filled with aggregate to permit movement through the trench and into the soil. The trench may also contain perforated pipe to enhance the efficiency of the system. [reference in Underdrain definition]

Ground Water Table: The uppermost extent of naturally existing water beneath the earth's surface between saturated soil particles and rock that supplies wells and springs. At least two feet of separation is required between the normal ground water elevation and the bottom of the bioretention filter media.

Impervious Surface: A surface that prevents the infiltration of water into the ground such as all roofs, streets, sidewalks, driveways, parking lots, highly compacted soils, and gravel.

Infiltration Rate: The rate of infiltration (inches/hour) of in-situ soils at the base (subgrade) of a designed BMP, as determined by on-site soil evaluation certified by a Professional Engineer. Also referred to as Saturated Soil Conductivity (K_{sat}) or In-Situ Infiltration Rate.

Inlets: A stormwater collection structure designed to collect and convey surface water into the stormwater management system via a grated cover.

1. **Standard Inlet:** A stormwater collection structure designed to collect and convey surface water from a paved area into the stormwater management system. An Inlet is normally 2 feet in diameter, is

designed so that stormwater is collected via a grated cover and falls directly into the storm drain. (GIS Feature Class HydroDrainInlet, Subtype 1 Standard Inlet)

2. **Catch Basin:** A stormwater collection structure designed to collect and convey surface water from a paved area into the stormwater management system. A catch basin is normally 4 feet in diameter, is designed so that stormwater is collected via a grate cover and sediment falls to the bottom of the catch basin sump not directly into the storm drain. (GIS Feature Class HydroDrainInlet, Subtype 2 CatchBasin)
3. **Rear Yard Catch Basin:** A stormwater collection structure designed to collect and convey surface water from an unpaved area into the stormwater management system. A rear yard catch basin is normally 4 feet in diameter, is designed so that stormwater is collected via a grate cover and sediment falls to the bottom of the catch basin sump not directly into the storm drain. (GIS Feature Class HydroDrainInlet, Subtype 3 RearYardCatchBasin)
4. **Yard Inlet:** A stormwater collection structure designed to collect and convey surface water from an unpaved area into the stormwater management system. A yard inlet consists of a 2 ft. diameter manhole, is designed so that stormwater is collected via a grated cover and falls directly into the storm drain then into a water quality BMP. (GIS Feature Class HydroDrainInlet, Subtype 4 YardInlet)
5. **Leaching Basin:** A stormwater collection structure designed to collect and convey surface water into the soil subgrade. A leaching basin consists of a square or round structure with perforated sides and no base cookie, is designed so that stormwater is collected via a grated cover or delivered through a connecting storm drain and is filtered through stone and infiltrated the soil. (GIS Feature Class HydroDrainInlet, Subtype 5 LeachingBasin)

Level-Spreader: A device used to spread stormwater runoff uniformly over the ground surface as sheet flow to prevent concentrated, erosive flow from occurring, and to enhance infiltration.
Manhole: A stormwater structure designed to allow access into a closed conduit or other underground component of a stormwater management system. A manhole has a minimum diameter of 4 feet, is designed with a concrete flow channel at the bottom of the manhole and is fitted with a solid cover.
Manufactured Treatment Device: A pre-fabricated stormwater treatment structure utilizing settling, filtration, absorptive/adsorptive materials, vortex separation, vegetative components, and/or other appropriate technology to remove pollutants from stormwater runoff. The TSS removal rate for manufactured treatment devices must meet the NJDEP certification of the pollutant removal rates.

Municipal Separate Storm Sewer System (MS4): A system of conveyances that include, but are not limited to, catch basins, curbs, gutters, ditches, man-made channels, pipes, tunnels, and/or storm drains, and similar means of collecting or conveying runoff that do not connect with a wastewater collection system or treatment plant and instead discharge into Waters of the State.

Native Plants: Plant species that occurs naturally in the Southeast Michigan ecosystem, and habitat without direct or indirect human actions.

Natural Resources Conservation Service (NRCS): A federal agency of the United States Department of Agriculture (USDA) that works with farmers, ranchers, forest landowners, local and state governments, and other federal agencies to maintain healthy and productive working landscapes, and to protect our natural resources through conservation.

Natural Wetland: Michigan's wetland statute, Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, defines a wetland as "land characterized by the presence of water at a frequency and duration sufficient to support, and that under normal circumstances does support, wetland vegetation or aquatic life, and is commonly referred to as a bog, swamp, or marsh." The definition applies to public and private lands regardless of zoning or ownership. Many wetland areas have only a high ground water table and standing water may not be visible. Types of wetlands include deciduous swamps, wet meadows, emergent marshes, conifer swamps, wet prairies, shrub-scrub swamps, fens, and bogs.

Non-point Source Pollution: Stormwater conveyed pollution that is not identifiable to one particular source, and is occurring at locations scattered throughout the drainage basin. Typical sources include erosion, agricultural activities, and runoff from urban lands.

Non-structural BMPs: Stormwater runoff treatment techniques that use natural measures to reduce pollution levels that do not involve the construction or installation of devices (e.g. management actions). [site BMPs]

Ordinary High Water Mark: The line between upland and bottomland which persists through successive changes in water level, below which the presence of water is so common or recurrent that the character of the soil and vegetation is markedly different from the upland.

Outlet Control Structure: A horizontal pipe or series of pipes or vertical riser pipe designed to gradually release stormwater from a pond over a 24 to 48-hour interval.

Overflow Structure: A structure designed to allow unrestricted discharge from a component of a stormwater management system when the water level exceeds the design water level. [cross reference with emergency overflow]

Peak Discharge or Flow Rate: The maximum instantaneous rate of flow during a storm, usually in reference to a specific design storm event.

Permanent Pool: A pool in a wet detention system that provides additional removal of pollutants through settling and biological uptake.

Pervious or Porous Pavement: Traditionally impervious surfaces designed to allow stormwater to be stored in a layer of open graded stone and then infiltrate into the ground. (Pervious Concrete, Pervious Asphalt, Pervious Pavers)

Plunge Pool: A small permanent pool located at either the inlet to, or outfall from a BMP. The primary purpose of the pool is to dissipate the velocity of stormwater runoff, but it can also provide some pre-treatment.

Ponding Area: In bioretention areas, the area where excess stormwater runoff is temporarily stored prior to infiltration into the ground.

Professional Engineer (PE): Only an engineer licensed in the State of Michigan may prepare, sign and seal, and submit engineering plans and drawings for approval. PEs must continuously demonstrate their competency and maintain and improve their skills by fulfilling the State of Michigan continuing education requirements.

Regulated Wetland: Any wetland protected by federal, state, and or local government regulation.

Rational Method Formula: A technique for estimating peak flow rates at a particular location within a stormwater management system, based on the rainfall intensity, watershed time of concentration, and a runoff coefficient. Q = ciA

Release Rate: The rate of discharge in volume per unit time from a detention facility [reference PEAK flow and differentiate between pre-vs post and prescribed rate]

Retention Basin: The holding of runoff in a basin without release except by means of evaporation, infiltration, or emergency bypass. Retention is discouraged under all circumstances unless there is no practical way to provide an outlet. Pre-treatment in the form of infiltration BMPs, sediment forebays, and mechanical separators is required for sediment removal.

Return Interval: A statistical term for the average time of expected interval that an event of some kind will equal or exceed given conditions (e.g., a stormwater flow that occurs every 2 years).

Riprap: A combination of large stone, cobbles, and boulders used to line watercourses, stabilize banks, reduce runoff velocities, or filter out sediment.

Riser: A vertical pipe extending from the bottom of a basin that is used to control the discharge rate from the basin for a specified design storm. When this is used for soil erosion control during construction it is considered temporary.

Runoff: The excess portion of precipitation that does not infiltrate into the ground, but "runs off" into streams, water bodies, and/or storm sewers.

Runoff Coefficient: The ratio of the amount of water that is NOT absorbed by the surface to the total amount of water that falls during a rainstorm [define and differentiate from percent impervious] – cross reference with rational method. State when it is used and when CN is used.

Saturated Soil Conductivity (K_{sat}): The rate of infiltration (inches/hour) of in-situ soils at the base (subgrade) of a designed BMP, as determined by on-site soil evaluation certified by a Professional Engineer. Also referred to as Infiltration Rate or In-Situ Infiltration Rate.

Sediment: Soil material that is transported from its site of origin by water. May be in the form of bed load, suspended or dissolved.

Sheet Flow: Runoff which flows over the ground surface as a thin, even layer, not concentrated in a channel. Maximum allowable sheet flow length is 100 feet.

Short Circuiting: The passage of runoff through a BMP in less than the theoretical or design detention time.

Soil Erosion: The increased loss of the land surface that occurs as a result of the wearing away of land by the action of wind, water, gravity, or a combination of wind, water, gravity or human activities.

Soil Group, Hydrologic: A classification of soils by the NRCS into four runoff potential groups. The groups range from "A Soils" which are very permeable and produce little runoff, to "D Soils" which are relatively impermeable and produce much more runoff.

Spillway: A depression in the embankment of a pond or basin, used to pass peak discharges in excess of the design storm.

Stabilization: The establishment of vegetation or the proper placement, grading, or covering of soil to ensure its resistance to soil erosion, sliding, or other earth movement.

Stormwater: Water resulting from precipitation, including without limitation rain, snow, snowmelt. Also referred to as "runoff".

Stormwater Management Plan: Ordinances, orders, rules, regulations, and other mechanisms that provide for the management of stormwater to prevent flooding and to ensure the restoration and/or protection of surface waters.

Stormwater Management System: Any structure, feature, or appurtenance subject to the Ordinance, or a rule promulgated pursuant to the Ordinance, that is designed to collect, detain, retain, treat, or convey stormwater runoff, including without limitation buffer strips, swales, gutters, catch basins, closed conduits, detention systems, pretreatment systems, wetlands, pavement, unpaved surfaces, structures, watercourses, or surface waters.

Stream: By MDEQ definition: "a river, creek, or surface waterway that may or may not be defined by Act 40, P.A. of 1956; has definite banks, a bed, and visible evidence of continued flow or continued occurrence of water, including the connecting water of the Great Lakes." Even if water flow is intermittent, it is classified as a stream.

Surcharge: A condition in which the water level in a storm drain rises above the crown of the conduit.

Surface Water: A body of water, including without limitation seasonal and intermittent waters, in which the surface of the water is exposed to the atmosphere, including without limitation lakes, open detention basins, forebays, watercourses, bioretention areas, retention basins, wetlands, and impoundments.

Tailwater: The depth of water at the downstream end of a culvert or crossing. [mention potential for tailwater to impact detention pond outlet]

Technical Infeasibility: Each site proposed for development is unique due to soils, land cover, topography, location, etc. Therefore, waivers or variances from certain provisions of these standards may be requested when it can be demonstrated that these standards are technically infeasible. In these situations, alternatives consistent with the overall intent of these standards must be proposed for consideration.

For projects where technical infeasibility exists, the design engineer must document and quantify that stormwater strategies, such as infiltration, evapotranspiration, and harvesting and water use have been used to the maximum extent technically feasible (METF) and that implementation of these methods are infeasible due to site constraints. The burden of proof of Technical Infeasibility lies with the design engineer. Documentation of technical infeasibility should include, but may not be limited to, engineering calculations, geological reports, hydrological analyses and site maps. A determination that the performance design goals cannot be achieved on the site should include analyses that rule out the use of an adequate combination of infiltration, evapotranspiration, and water use measures. Adequate

documentation must be submitted to WRC for review and final determination. Examples of site conditions that may prevent the application of stormwater BMP's to the METF includes:

1. The conditions on the site preclude the use of infiltration practices due to the presence of shallow bedrock, contaminated soils, high ground water or other factors, such as underground facilities, utilities or development location within a wellhead protection area.
2. The design of the site precludes the use of soil amendments, plantings of vegetation or other designs that can be used to infiltrate and evapotranspirate stormwater runoff.
3. Water harvesting and use are not practical or possible due to the volume of water used for irrigation, toilet flushing, industrial make-up water, wash-waters, etc. is insignificant to warrant the application of water harvesting and use systems.
4. Modifications to an existing building to manage stormwater are not feasible due to structural or plumbing constraints or other factors.
5. Sites where the site area is too small to accommodate adequate infiltration practices for the impervious area to be served. (Less than one acre)
6. Soils that cannot be sufficiently modified to provide reasonable infiltration rates.
7. Situation where site use is inconsistent with the capture and use of stormwater or other physical conditions on site that preclude the use of plants for evapotranspiration or bio-infiltration.
8. Retention and/or use of stormwater onsite or discharge of stormwater onsite by infiltration having an adverse effect on the site, gradient of surface or subsurface water, receiving watershed, or water body ecological processes.
9. Federal, state of local requirements or permit conditions that prohibit water collection or make it technically infeasible to apply LID practices.

Adapted from EPA Section 438 Technical Guidance December 2009.

Time of Concentration (T_C): The time duration (typically in minutes) that is required for stormwater runoff from the most remote area of the watershed to reach a given location in a stormwater management system.

Total Suspended Solids: Particles or other solid material suspended in stormwater or stormwater runoff. "Total suspended solids" is commonly expressed in concentration (mg/l).

Underdrain: One or more underground pipes installed beneath bioretention areas, terraced side slopes, or other structures to facilitate conveyance of stormwater runoff from beneath the structure to another part of the stormwater management system.

Upland Zone: The area within an open detention basin or retention basin between the bank full elevation to the 100- year flood elevation and beyond.

Watercourse: A natural or artificial channel for flowing water.

Watershed: The complete area or region of land draining into a single outlet, watercourse, surface water, or closed conduit that is separate from other watersheds by a divide.

Waters of the State (Michigan): Any groundwater, lakes, including the Great Lakes bordering the state, rivers, streams, and all other water courses and bodies of water within the jurisdiction of the state including wetlands.

Weir: A structure that extends across the width of a body of water, channel, watercourse, or closed conduit, and is used to impound, measure, or in some way alter the flow of water through the channel.

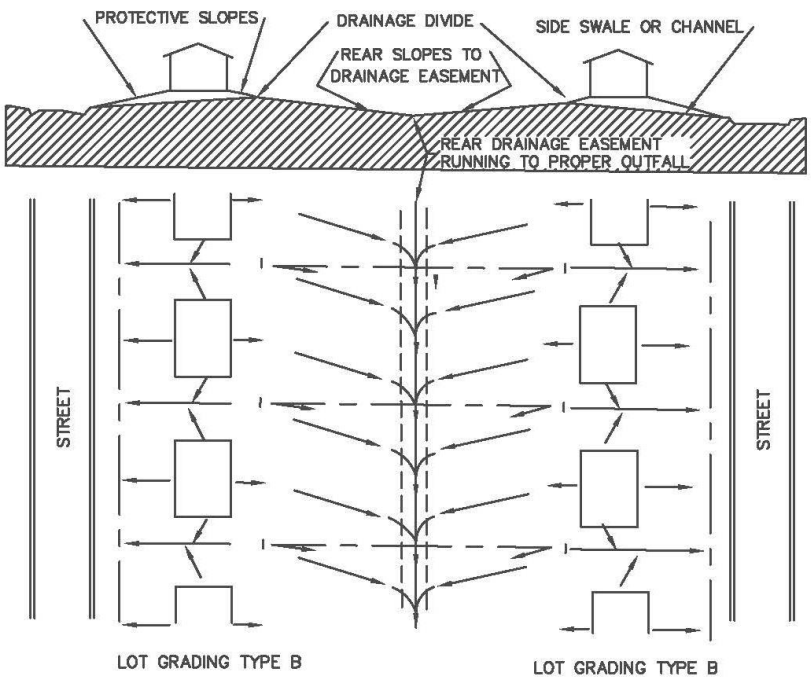
Wetland: An area that is saturated by surface or groundwater with vegetation adapted for life under those soil conditions, such as swamps, bogs, fens, marshes and estuaries.

Wetland Mitigation: A regulatory term that refers to the process of constructing new wetland acreage to compensate for the loss of natural wetlands during the development process. Mitigation seeks to replace structural and functional qualities of the natural wetland type that has been destroyed. Stormwater wetlands typically do not count for credit as mitigation, because their construction does not replicate all the ecosystem functions of a natural wetland.

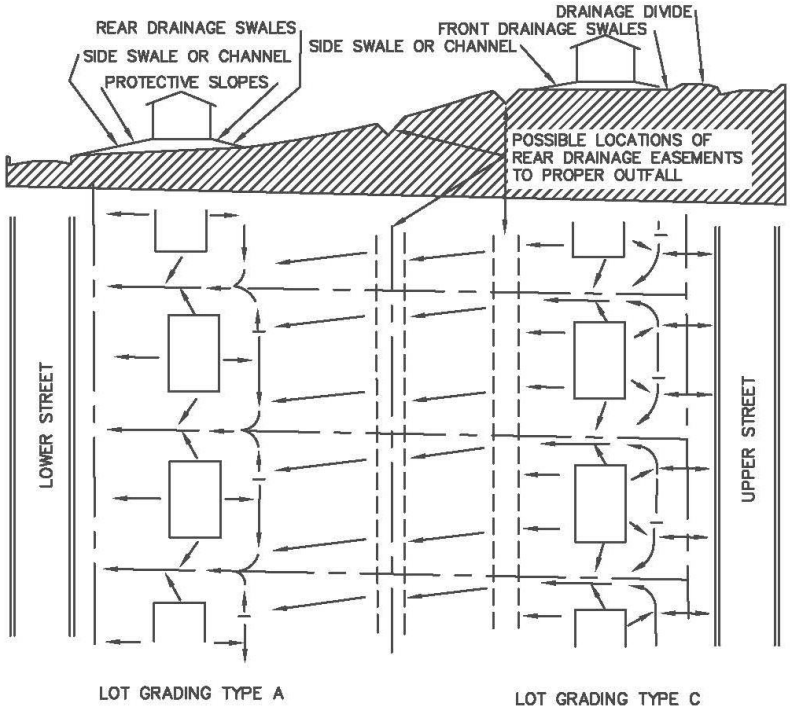
Appendix B: Lot Grading

The Oakland County Water Resources Commissioner will review the grading plan for sites that will be platted under Act 288 and a subdivision or site condominium included in the Chapter 18 Drain program. Positive drainage is required. Final lot grading inspection is under the jurisdiction of the local municipality. The minimum requirements are as follows:

1. The grading of the lot shall be such that surface runoff is directed away from homes and towards swales, ditches or drainage structures. Provision for drainage either by filling and grading or by providing some type of outlet shall be made for all areas within the proposed subdivision.
2. A proposed finished floor grade and proposed lot grading must be shown for each home or structure. A minimum of ½ foot of fall is required away from the home and between lots. Proposed grades may be indicated with spot grades or contours. A distinction between existing and proposed grades should be evident on the plans.
3. Where a walkout or daylight basement is proposed, sufficient grades should be shown at the location of the walkout to indicate positive drainage away from the walkout. Additional spot grades at the house corners and rear yard should be shown.
4. Where finished grades indicate a substantial amount of drainage across adjoining lots, a drainage swale of sufficient cross-section and slope shall be provided on the lot line to intercept this drainage.
5. Sufficient off-site topography must be shown to determine the extent of contributing runoff. Provisions must be made to accommodate the off-site contributing flow.
6. Lots that lie within a flood plain shall satisfy the EGLE and FEMA requirements for subdivisions within a flood plain. In no case will the filling of a lot be permitted if the flood plain is so restricted as to cause possible flooding or back up of the stream.



BLOCK GRADING TYPE 4: VALLEY ALONG REAR LOT LINES



BLOCK GRADING TYPE 3: STEEP CROSS SLOPE

Appendix C: Reference Materials

Site Plan Example 1

The example site is a proposed commercial development. Total development area of the site is 10.32 acres consisting of primarily HSG Type B soils under a mixture of impervious cover, turf grass, meadow and woods. Infiltration tests conducted on the site yielded an observed infiltration rate of 1 inch/hour. A minimum of one infiltration test per BMP location is required, but for this example, a single infiltration rate is applied. A mechanical separator or sediment forebay is not required given the use of infiltration BMPs for water quality treatment. The site has a 1% slope.

Area, A	10.32	acres
Proposed Impervious Acres	4.80	acres
Proposed Pervious Acres	5.52	acres
Infiltration Rate	1	in/hr
Runoff Coefficient, C	0.59	
100-yr peak intensity	6.31	in/hr

Infiltration Feasibility

Test pit infiltration tests were performed at the bottom of each proposed infiltration BMP and resulted in a 1 inch/hour infiltration rate for each BMP. No supplemental measures are required for infiltration BMPs at this site.

K_{sat} Values	
Ksat ≥ 0.50 in/hr	No supplemental measures are required for Infiltration BMPs to provide the infiltration volume
0.50 in/hr≥ Ksat ≥ 0.24 in/hr	Install supplemental measures, which may include subsoil amendment, or an underdrain placed at the top of the storage bed layer to ensure dewatering in the event underlying soils fail to provide adequate drawdown or dewatering time. If underdrains are selected, design shall allow stormwater to percolate through the soils first, with the underdrain serving as a secondary outlet, by placing the underdrain in the upper level of the BMP, with pipe perforations located along the underdrain invert.
Ksat ≤ 0.24 in/hr	***Soils are not suitable for infiltration. Alternative volume reducing LID practices must be used to the MEP to reduce stormwater volume.***

Land Use Summary

must be included on the COVER SHEET for all site plans

Pervious Area Land Use Data

Characteristic	Existing Conditions	Proposed Conditions
Total Development Area (ac)	10.32	10.32
Impervious Area (ac)	0	4.80
Total Pervious Area (ac)	10.32	5.52
Pervious Area Breakdown by Cover Type		
Meadow/fallow/natural areas (non-cultivated)	4.00 acres	0 acres
Predominant NRCS Soil Type (A, B, C, or D)	Type B	Type B
Improved areas (turf grass, landscape, row crops)	2.32 acres	5.05 acres
Predominant NRCS Soil Type (A, B, C, or D)	Type B	Type B
Wooded Areas	4.00 acres	0 acres
Predominant NRCS Soil Type (A, B, C, or D)	Type B	Type B
Proposed Pond Area (acres)		0.47
Required CPVC Volume (cubic feet)		28,733
Provided CPVC Volume (cubic feet)		***29,400***
Required ED Volume (cubic feet)		41,994
Provided ED Volume (cubic feet)		***42,000***

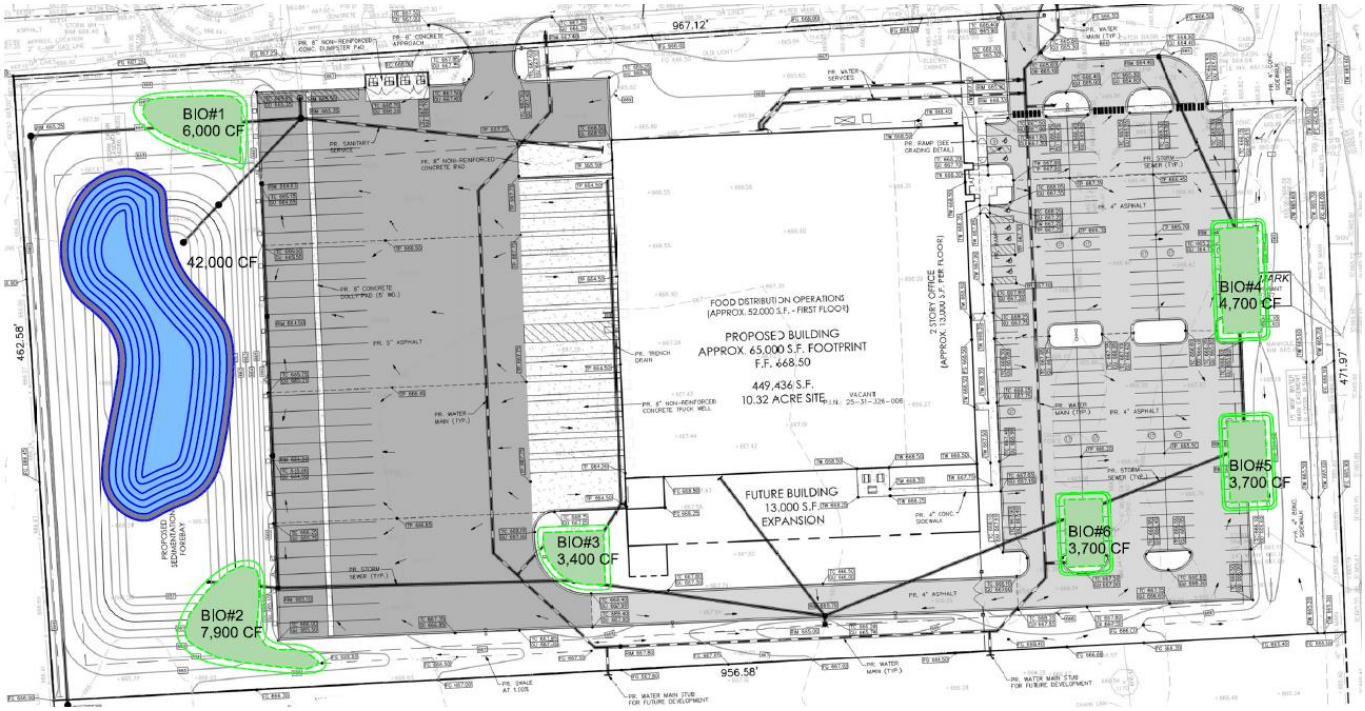


Figure 1 - Example 1 Commercial Site

Calculate the Composite Runoff Coefficient

$$C = \frac{\sum_{i=1}^{N}(A_i x C_i)}{\sum_{i=1}^{N} A_i}$$

$$C = \frac{(4.80x0.95) + (5.05x0.20) + (0.47x1)}{10.32} = 0.59$$

C Values		
Green Space	HSG A	0.15
	HSG B	0.20
	HSG C	0.25
	HSG D	0.30
Impervious Areas		0.95
Water		1.00

Calculate Time of Concentration

Sheet Flow

$$v = K\ x\ S^{0.5}$$

$v = 0.48\ x\ 1^{0.5} = 0.48\frac{ft}{s}$

$T_t = \frac{\text{L}}{3600v}$

$T_t = \frac{120\text{ ft}}{3600\left(0.48\frac{ft}{s}\right)} = 0.0694\ hrs = 4.2\ min$

Waterway Flow

$v = K\ x\ S^{0.5}$

$v = 1.2\ x\ 1.3^{0.5} = 1.37\frac{ft}{s}$

$T_t = \frac{\text{L}}{3600v}$

$T_t = \frac{300\text{ ft}}{3600\left(1.37\frac{ft}{s}\right)} = 0.0609\ hrs = 3.7\ min$

Pipe Flow

$v = 3\frac{ft}{sec}$rom pipe network calculations – not shown)

$T_t = \frac{\text{L}}{3600v}$

$T_t = \frac{1300\text{ ft}}{3600\left(3\frac{ft}{s}\right)} = 0.1204\ hrs = 7.2\ min$

$T_c = 4.2\ min + 3.7\ min + 7.2\ min = 15.1\ min$

Calculate 100-year Peak Intensity

$$I_{100} = \frac{83.3}{(T_c + 9.17)^{0.81}}$$

$T_c = 15.1\ minutes$

$$I_{100} = \frac{83.3}{(15.1 + 9.17)^{0.81}} = 6.29\frac{in}{hr}$$

Calculate Channel Protection Volume

$V_{CPVC} = 4{,}719\ x\ C\ x\ A$

$V_{CPVC} = 4{,}719\ x\ 0.59\ x\ 10.32\ acres = 28{,}733\ cubic\ feet$

Calculate Channel Protection Rate Control: Extended Detention

$V_{ED} = 6{,}897\ x\ C\ x\ A$

$V_{ED} = 6{,}897\ x\ 0.59\ x\ 10.32\ acres = 41{,}994\ cubic\ feet$

Calculate 100-year Peak Inflow

$Q_{100IN} = C\ x\ I_{100}\ x\ A$

$I_{100} = 6.29\frac{in}{hr}$ (Calculated on previous page)

$Q_{100IN} = 0.59\ x\ 6.29\frac{in}{hr}\ x\ 10.32\ acres = 38.30\ cfs$

Determine the Peak Allowable 100-year Discharge

Q_{100P} is the lesser of:

1. The restricted rate for the drain (ft^3/Acre)
2. The prorated share of the drain's capacity (ft^3/Acre)
3. The Variable Release Rate (Q_{VRR}) (ft^3/Acre)

In this example, it is assumed the drain capacity is capable of receiving the runoff from the site and the variable release rate will be utilized.

Calculate the Variable Release Rate

$Q_{VRR} = 1.1055 - 0.206\ x\ \ln(A)$

$Q_{VRR} = 1.1055 - 0.206\ x\ \ln(10.32\ acres) = 0.625\frac{cfs}{acre}$

$Q_{100P} = Q_{VRR}\ x\ A$

$Q_{100P} = 0.625\frac{cfs}{acre}\ x\ 10.32\ acres = 6.45\ cfs$

Calculate Storage Curve Factor

$$R = 0.206 - 0.15\ x \ln\left(\frac{Q_{100P}}{Q_{100IN}}\right)$$

$$R = 0.206 - 0.15\ x \ln\left(\frac{6.45\ cfs}{38.30\ cfs}\right) = 0.473$$

Calculate the 100-year Runoff

$$V_{100R} = 18{,}985\ x\ C\ x\ A$$

$$V_{100R} = 18{,}985\ x\ 0.59\ x\ 10.32\ acres = 115{,}596\ cubic\ feet$$

Calculate the 100-year Storage Volume

$$V_{100D} = V_{100R}\ x\ R$$

$R = 0.474$ (Calculated on Previous Page)

$$V_{100D} = 115{,}596\ x\ 0.473 = 54{,}677 \text{ cubic feet}$$

The site plan must be designed to accommodate the following volumes:

- V_{CPVC}: 28,733 cubic feet
- V_{ED}: 41,994 cubic feet
- V_{100D}: 54,677 cubic feet

  * If the volume control requirement is met, the CPVC volume can be subtracted from (credited against) the 100-year flood control volume.

Outlet Calculations

Note: If the CPRC volume is at or above the flood control volume, a single control (CPRC) is only for the orifice. Volume above the 100-year allowable will be controlled by the outlet pipe (overflow weir). Additionally, for pipe sizing downstream of the detention pond, supporting calculations would need to be provided (not shown here).

Calculate the Extended Detention Release Rate

$$Q_{ED} = \frac{V_{ED}}{172{,}800}$$

$$Q_{ED} = \frac{41{,}994\ cubic\ feet}{172{,}800} = 0.24\ cfs$$

Orifice Calculations

Extended Detention Orifice Design

$$Q_p = C_O\ x\ A_O\ x\ \sqrt{2\ x\ g\ x\ h}$$

$$Q_p = 0.62\ x\ 0.022\ x\ \sqrt{2\ x\ 32.2\ x\ 3.6} = 0.21\ cfs$$

0.62 used for standard orifice opening

h = water level at 50% V_{ED} (based on Extended Detention basin design)

2" orifice opening will need additional protection from clogging.

Orifice sized for extended detention allowable discharge rate (0.21 cfs).

Infiltration BMP Calculations

Average Infiltration Area (Bioretention Cell 1)

$$A_t = \frac{A_1 + A_2}{2}$$

$$A_t = \frac{2{,}650\ sf + 3{,}500\ sf}{2} = 3{,}075\ square\ feet$$

Surface Storage Volume (Bioretention Cell 1)

$$V_{ss} = A_t\ x\ H$$

$$V_{ss} = 3{,}075\ sf\ x\ 1\ ft = 3{,}075\ cubic\ feet$$

Subsurface Storage Volume (Bioretention Cell 1)

$$V_{soil} = h\ x\ SA\ x\ e$$

Void ratio 0.30 (max)

$$V_{soil} = 1.5\ ft\ x\ 3{,}075\ sf\ x\ 0.3 = 1{,}384\ cubic\ feet$$

Infiltration Storage (Bioretention Cell 1)

$$V_i = \frac{K_{sat}\ x\ S_f\ x\ 6\ x\ A_t}{12in}$$

$$V_i = \frac{1\frac{in}{hr}\ x\ 1\ x\ 6\ x\ 3{,}075\ sf}{12in} = 1{,}538\ cubic\ feet$$

Bioretention Total Storage Volume (Bioretention Cell 1)

$$V_{tbr} = V_{ss} + V_{subsurface} + V_i$$

$$V_{tbr} = 3{,}075\ cf + 1{,}384\ cf + 1{,}538\ cf = 5{,}997\ cubic\ feet$$

Rounded to 6,000 cubic feet.

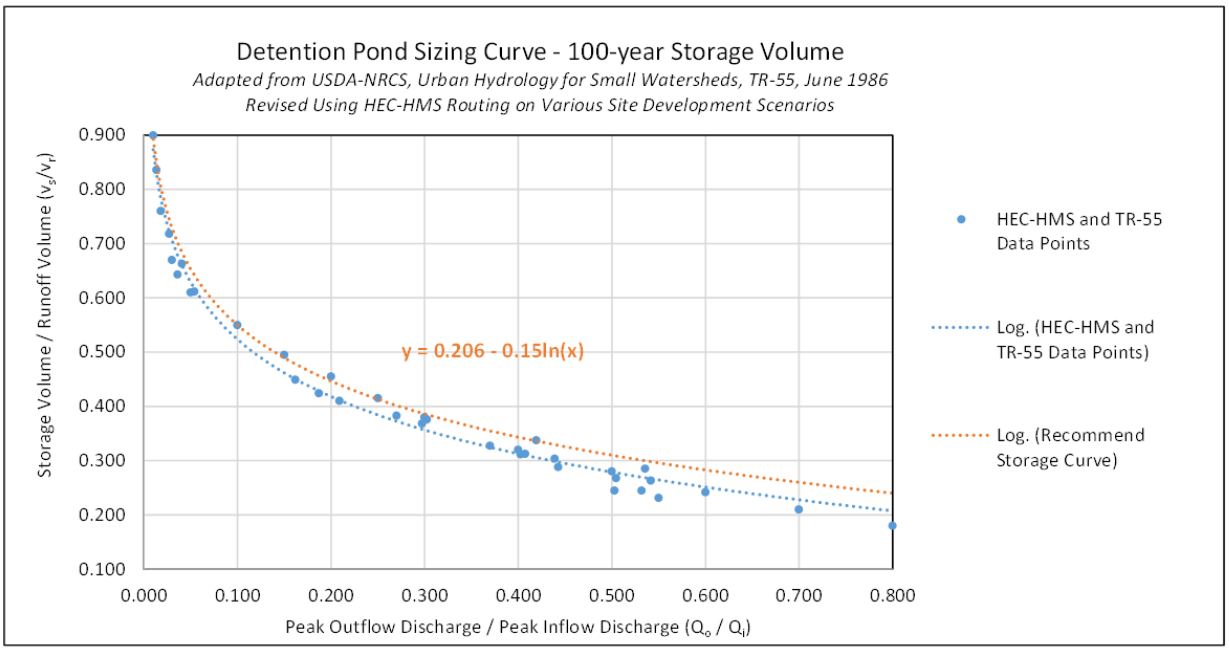
Summary of Bioretention Cell Storage

Location	Bottom Contour Area (SF)	Top Contour Area (SF)	Avg Area (SF)	Surface Storage (CF)	Soil Storage (CF)	Infiltration Storage (CF)	Total Storage (CF) (Rounded)
1	2,650	3,500	3,075	3,075	1,384	1,538	6,000
2	3,300	4,800	4,050	4,050	1,823	2,025	7,900
3	1,400	2,100	1,750	1,750	788	875	3,400
4	1,400	2,400	1,900	1,900	855	950	3,700
5	2,000	2,800	2,400	2,400	1,080	1,200	4,700
6	1,400	2,400	1,900	1,900	855	950	3,700
Total Volume Provided				**15,075**	**6,785**	**7,538**	**29,400**

Total volume provided by infiltration BMPs exceeds the required Channel Protection Volume (28,733 cf).

Please note that since the CPVC is met, the Water Quality requirement is also achieved.

Detention Pond Sizing Curve



Original TR-55 Table included Qo/Qi values ranging from 0.10 to 0.80

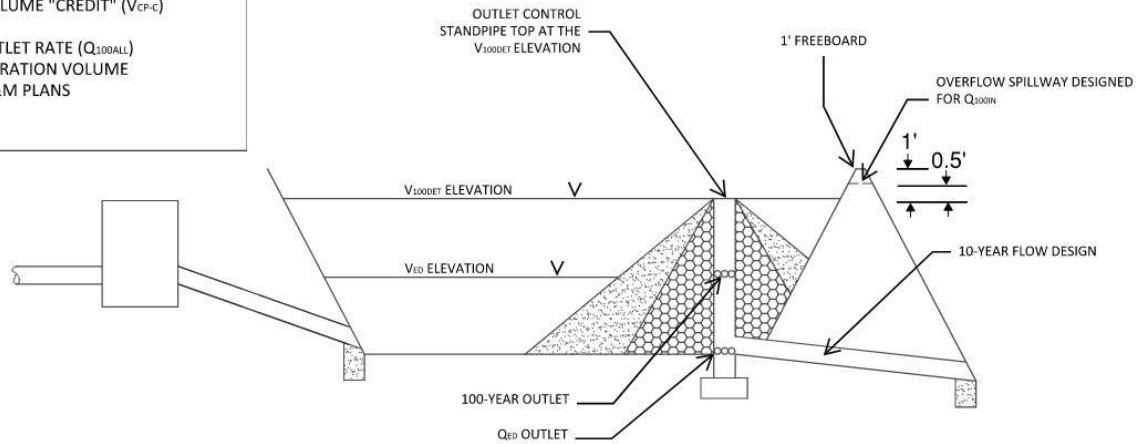
Additional values added using HEC-HMS routing, including Qo/Qi values less than 0.10

Typical Detention Basin/Forebay Cross Sections

TYPICAL DETENTION BASIN WITH MECHANICAL SEPERATOR

REQUIRED PROFESSIONAL ENGINEER CERTIFICATIONS

-CHANNEL PROTECTION VOLUME "CREDIT" (V_{CP-C})
-INFILTRATION RATES
-100-YEAR ALLOWABLE OUTLET RATE (Q_{100ALL})
-MEP FOR ACHIEVED INFILTRATION VOLUME
-STORMWATER SYSTEM O&M PLANS



MECHANICAL SEPARATOR

REQUIRED WATER QUALITY TREATMENT IS 80 MG/L TSS, OR 80% TSS REMOVAL

SIZED BASED ON THE 1-YEAR WATER QUALITY PEAK FLOW RATE (Q_{WQ})

$Q_{WQ}= (C)(I_1)(A)$

REPLACES FOREBAY REQUIREMENT

INSTALLED OFFLINE AND UPSTREAM OF ANY DETENTION OR RETENTION BASIN

NOTES:
-MUST BE NJDEP CERTIFIED
-EXCLUDES UPSTREAM CONTRIBUTING AREA'S WHERE 1-INCH WATER QUALITY CONTROL IS PROVIDED THROUGH OTHER BMP'S

EXTENDED DETENTION VOLUME (V_{ED})

EXTENDED DETENTION CONTROLS THE 2-YEAR BANK FULL RELEASE RATE BY DEWATERING THE V_{ED} OVER 48-HOURS

$V_{ED}= (6,897)(C)(A)$

EXTENDED DETENTION OUTLET RATE

$Q_{ED}=(V_{ED})/(172,800)$

$H_{ED}=(V_{ED})/((4,666)(h)^{(1/2)})$

H_{ED}= NUMBER OF 1-INCH DEWATERING HOLES
h=TOTAL HEAD ON THE ORIFICES

100-YEAR POST-CONSTRUCTION INLET RATE (Q_{100IN})

$Q_{100IN}=(C)(I_{100})(A)$

$I = [(30.2033)(P^{0.2203})]/[(T_C + 9.1747)^{0.8069}]$

100-YEAR ALLOWABLE OUTLET RATE (Q_{100ALL})

THE ALLOWABLE 100-YEAR OUTLET RATE IS THE LESSER OF:

-OCWRC RESTRICTED RATE FOR THE DRAIN (Q_R)
-PRO-RATED SHARE OF THE DRAINS CAPACITY (Q_P)
OR
-THE VARIABLE RELEASE RATE (Q_{VRR})

$Q_{VRR}=1.1055 - 0.206LN(A)$

100-YEAR DETENTION VOLUME (V_{100DET})

$R=0.206-(0.15)(LN(Q_{100ALL}/Q_{100IN}))$

R=STORAGE CURVE FACTOR

$V_{100RUN}=(18,900)(C)(A)$

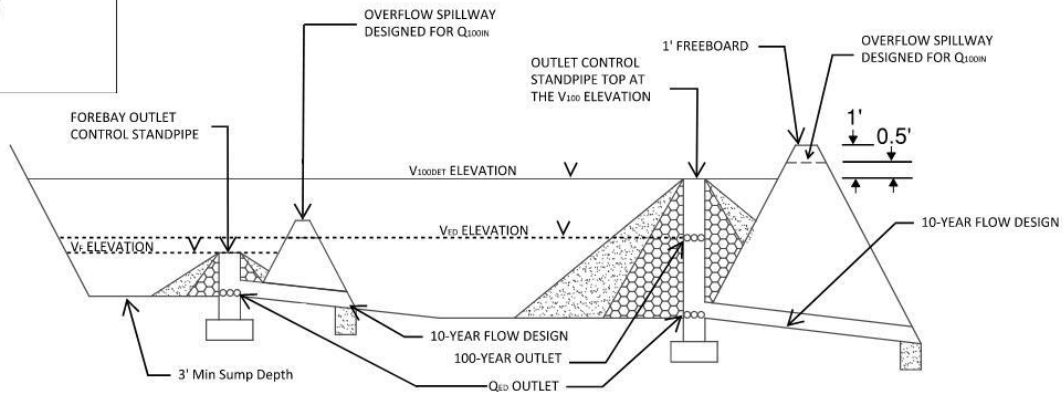
$V_{100DET}=(V_{100RUN})(R)-V_{CP-C}$

REV-11/22/2021

TYPICAL DETENTION BASIN WITH FOREBAY

REQUIRED PROFESSIONAL ENGINEER CERTIFICATIONS

-CHANNEL PROTECTION VOLUME "CREDIT" ($V_{CP\text{-}C}$)
-INFILTRATION RATES
-100-YEAR ALLOWABLE OUTLET RATE (Q_{100ALL})
-MEP FOR ACHIEVED INFILTRATION VOLUME
-STORMWATER SYSTEM O&M PLANS



FOREBAY VOLUME (V_F)

A FOREBAY FOR ALL INLETS SHALL CAPTURE SILT, SAND, TRASH AND DEBRIS FOR REMOVAL. THEY ARE SIZED AT 15% OF THE WATER QUALITY VOLUME (V_{WQ})

$V_F = (545)(C)(A)$

V_F IS A MINIMUM OF V_{WQ} WHEN DOWNSTREAM INFILTRATION IS PROPOSED

FOREBAY OUTLET SIZE

THE FOREBAY OUTLET SIZE IS THE SAME AS THE EXTENDED DETENTION OUTLET SIZE

NOTE: ALTERNATIVE FOREBAY OUTLETS REQUIRE PRE-APPROVAL FROM THE OCWRC

EXTENDED DETENTION VOLUME (V_{ED})

EXTENDED DETENTION CONTROLS THE 2-YEAR BANK FULL RELEASE RATE BY DEWATERING THE V_{ED} OVER 48-HOURS

$V_{ED} = (6,897)(C)(A)$

EXTENDED DETENTION OUTLET RATE

$Q_{ED}=(V_{ED})/(172,800)$

$H_{ED}=(V_{ED})/((4,666)(h)^{(1/2)})$

H_{ED}= NUMBER OF 1-INCH DEWATERING HOLES
h=TOTAL HEAD ON THE ORIFICES

100-YEAR POST-CONSTRUCTION INLET RATE (Q_{100IN})

$Q_{100IN}=(C)(I)(A)$

$I = [(30.2033)(P^{0.2203})]/[(T_C + 9.1747)^{0.8069}]$

100-YEAR ALLOWABLE OUTLET RATE (Q_{100ALL})

THE ALLOWABLE 100-YEAR OUTLET RATE IS THE LESSER OF:

-OCWRC RESTRICTED RATE FOR THE DRAIN (Q_R)
-PRO-RATED SHARE OF THE DRAINS CAPACITY (Q_P)
OR
-THE VARIABLE RELEASE RATE (Q_{VRR})

$Q_{VRR}=1.1055 - 0.206LN(A)$

100-YEAR DETENTION VOLUME (V_{100DET})

$R=0.206-(0.15)(LN(Q_{100ALL}/Q_{100IN}))$

R=STORAGE CURVE FACTOR

$V_{100RUN}=(18,900)(C)(A)$

$V_{100DET}=(V_{100RUN})(R)-V_{CP\text{-}C}$

REV-11/22/2021

List of County Drains with Hydraulically Restricted Outlets

Drain	Capacity (cfs/acre)
John E. Olsen	0.0776
Brown	0.1
Taylor-Ladd	0.1
Dry Run	0.1
Sinking Bridge	0.0776
Holland	0.0776
New Hudson East of Airport	0.068
Vinewood	0.0776
Galloway	0.09
Blackwood	0.03

Appendix D: George W. Kuhn Combined Sewer District Requirements

Appendix E: Standard Variables

TC: Contributing Area Time of Concentration (Minutes)

A: Contributing Area (Acres)

C: Composite Post-Construction Runoff Coefficient for the Drainage Area

H_{ED}: Number of 1-inch Holes Required for Dewatering

Q_{ED}: Extended Detention Outlet Rate (CFS)

Q_{100IN}: 100-year Post-Construction Inlet Rate (CFS)

Q_{100ALL}: 100-year Allowable Outlet Rate (CFS) is the lesser of Q_R, Q_P, Q_{VRR}

Q_R: Restricted Outlet Rate (CFS) – Request from OCWRC office

Q_P: Pro-rated Share of the Drain Capacity (CFS)

Q_{VRR}: Variable Release Rate (CFS)

Q_{WQ}: 1-year Water Quality Design Rate for Mechanical Separators (CFS)

R: Storage Curve Factor

V_F: Forebay Volume (CF)

V_{ED}: Extended Detention Volume Required (CF)

V_{ED-P}: Extended Detention Volume Provided (CF)

V_{100IN}: 100-year Inlet Volume (CF)

V_{100DET}: 100-year Detention Volume (CF), where $V_{100DET} = V_{100RUN} \times R - V_{CP-C}$

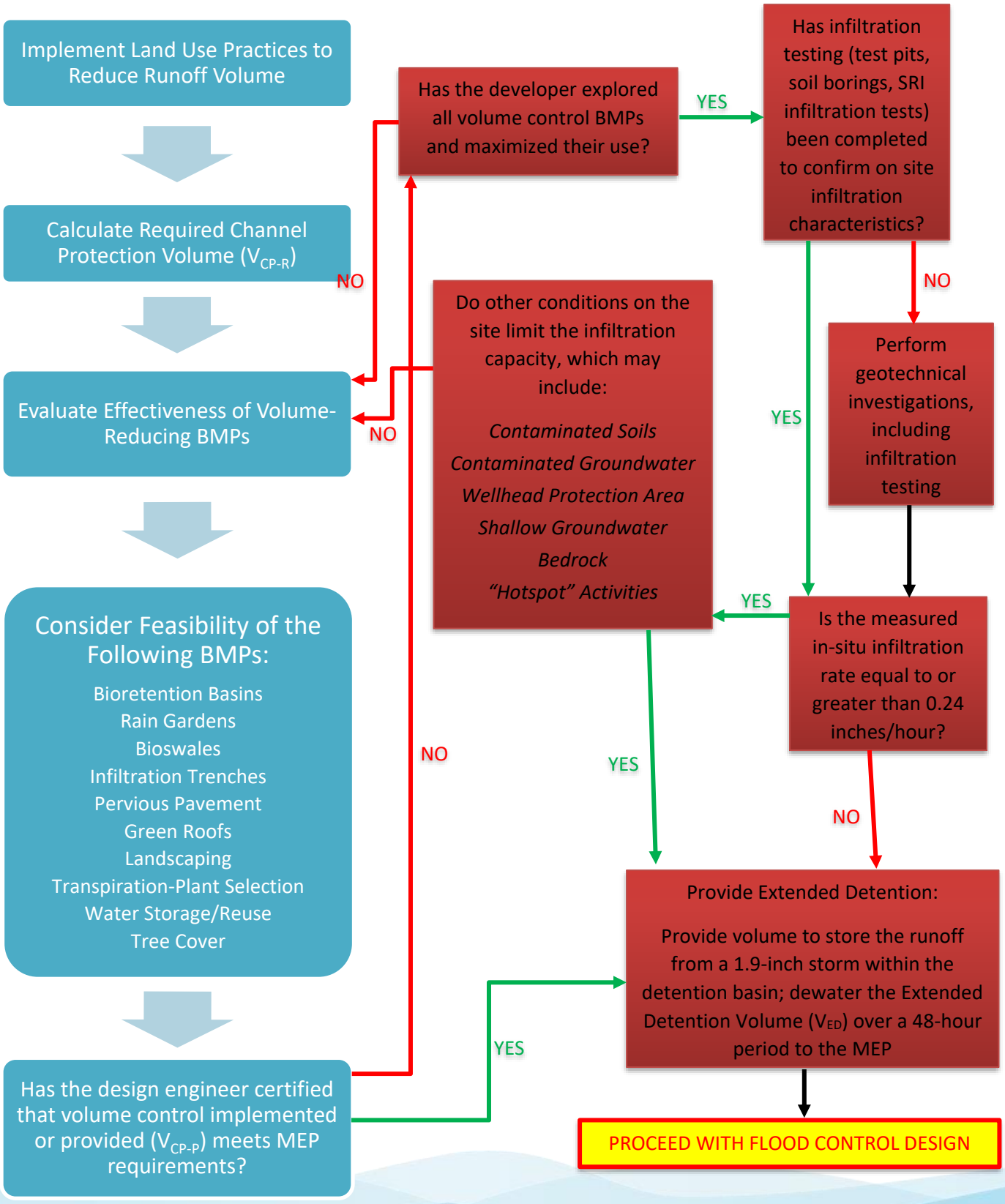
V_{CP-R}: Channel Protection Volume - Required (CF)

V_{CP-P}: Channel Protection Volume - Provided (CF)

V_{CP-C}: Channel Protection Volume - Credit (CF), where $V_{CP-C} = V_{CP-P}$ and $V_{CP-C} \leq V_{CP-R}$

V_{WQ}: Water Quality Volume (CF)

Appendix F: Channel Protection Flow Chart


Implement Land Use Practices to Reduce Runoff Volume
Calculate Required Channel Protection Volume (V_{CP-R})
Evaluate Effectiveness of Volume-Reducing BMPs
Consider Feasibility of the Following BMPs:
Bioretention Basins
Rain Gardens
Bioswales
Infiltration Trenches
Pervious Pavement
Green Roofs
Landscaping
Transpiration-Plant Selection
Water Storage/Reuse
Tree Cover
Has the design engineer certified that volume control implemented or provided (V_{CP-P}) meets MEP requirements?
NO
YES
Has the developer explored all volume control BMPs and maximized their use?
NO
YES
Has infiltration testing (test pits, soil borings, SRI infiltration tests) been completed to confirm on site infiltration characteristics?
NO
YES
Perform geotechnical investigations, including infiltration testing
Do other conditions on the site limit the infiltration capacity, which may include:
Contaminated Soils
Contaminated Groundwater
Wellhead Protection Area
Shallow Groundwater
Bedrock
"Hotspot" Activities
YES
Is the measured in-situ infiltration rate equal to or greater than 0.24 inches/hour?
NO
YES
Provide Extended Detention:
Provide volume to store the runoff from a 1.9-inch storm within the detention basin; dewater the Extended Detention Volume (V_{ED}) over a 48-hour period to the MEP
PROCEED WITH FLOOD CONTROL DESIGN

Appendix G: Maintenance Agreement

Stormwater Management Operations and Maintenance Agreement

This Agreement is made on [DATE], by and between [Community Name], (hereinafter "Community") whose address is [address] and [Owner Name], whose address is [address], (hereinafter "Owner"). Community and Owner agree as follows:

Article I. <u>The Subject Property</u>.

1.1 Owner owns the property located at and commonly known as [address or general description] (hereinafter the "Subject Property"). The legal description of the Subject Property is set forth at ***Exhibit A***.

Article II. <u>The Stormwater System</u>.

2.1 Owner, in accordance with Oakland County Stormwater Standards and State Municipal Separate Storm Sewer System permit requirements, agrees to install and maintain a Stormwater System on the Subject Property in accordance with approved plans and conditions. The Stormwater System is set forth at ***Exhibit B***.

2.2 After construction has been verified and accepted by the Community for the Stormwater System, the Owner shall file with the Community the "as-built" documents showing the design and construction details and shall reference this Agreement.

2.3 The Stormwater System will be governed by the terms and conditions in this Agreement.

Article III. <u>The Stormwater O&M Plan</u>.

3.1 The Owner shall be solely responsible for the installation, maintenance, and repair of the Stormwater System, drainage easements, and associated landscaping identified in Exhibit B in accordance with the Stormwater Management Operations and Maintenance Plan, hereinafter the "Stormwater O&M Plan" set forth at ***Exhibit C*** to this Agreement.

3.2 The Stormwater O&M plan is subject to approval by the Community.

3.3 The Owner agrees that the Stormwater O&M Plan is intended to and will serve the Subject Property in perpetuity.

3.4 The Owner, at its expense, shall secure from any affected owners of land all easements and releases of right-of-way necessary for implementation of the Stormwater O&M Plan and shall record them with the Oakland County Register of Deeds. These easements and releases of rights-of-way shall not be altered, amended, vacated, released, or abandoned without prior written approval of the Community.

3.5 No alterations or changes to the Stormwater O&M Plan shall be permitted unless they are deemed to comply with this Agreement and are approved in writing by the Community.

3.6 The Owner shall retain the services of a qualified inspector as described in Exhibit C – Maintenance Requirement 1) to operate and ensure the maintenance of the Stormwater O&M Plan.

3.7 The Owner shall annually, by December 30th, provide to the Community records (logs, invoices, reports, data, etc.) of inspections, maintenance, and repair of the Stormwater System in compliance with the Stormwater O&M Plan.

3.8 The Community agrees to enforce compliance with the annual inspection, maintenance and repair records as set forth in 3.7 above, such enforcement may require an ordinance.

Article IV. <u>Access and Enforcement</u>.

4.1 The Community or its designee is authorized to access the property as necessary to conduct inspections of the Stormwater System, implication of the Stormwater O&M Plan, or drainage easements to ascertain compliance with the intent of this Agreement.

Upon written notification by the Community or their designee of required maintenance or repairs, the Owner shall complete the specified maintenance or repairs within a reasonable time frame determined by the Community. The Owner shall be liable for the failure to undertake any maintenance or repairs so that the public health, safety and welfare shall not be endangered nor the road improvement damaged.

4.2 If the Owner does not keep the Stormwater System in reasonable order and condition, or complete maintenance activities in accordance with the Stormwater O&M Plan, or the reporting required in 3.7 above, the Community is authorized, but not required, to perform the specified inspections, maintenance or repairs in order to preserve the intended functions of the Stormwater System and prevent the Stormwater System from becoming a threat to public health, safety, general welfare or the environment.

4.3 In the case of an emergency, as determined by the Community, no notice shall be required prior to the Community performing emergency maintenance or repairs. The Community may levy the costs and expenses of such inspections, maintenance or repairs against the Owner.

The Community, at the time of entering upon said Stormwater System for the purpose of maintenance or repair, may file a notice of lien in the office of the Register of Deeds of Oakland County upon the property affected by the lien. If said costs and expenses are not paid by the Owner, the Community may pursue the collection of same through appropriate court actions and in such a case, the Owner shall pay in addition to said costs and expenses all costs of litigation, including attorney fees.

4.4 The Owner hereby conveys to the Community an easement over, on and in the property described in Exhibit A for the purpose of access to the Stormwater System for the inspection, maintenance and repair thereof, should the Owner fail to properly inspect, maintain and repair the Stormwater System.

Article V. Term and Covenants.

5.1 The Owner agrees that this Agreement shall bind all current and future owners of the property. The Owner agrees in the event that the Subject Property is sold, transferred, or leased to provide information to the new owner, operator, or lessee regarding proper inspection, maintenance and repair of the Stormwater System and Stormwater O&M Plan. The information shall accompany the first deed transfer and include Exhibits B and C and this Agreement. The transfer of this information shall also be required with any subsequent sale, transfer or lease of the Subject Property.

5.2 The Owner agrees that the rights, obligations and responsibilities hereunder shall commence upon execution of the Agreement.

Article VI. The Memorandum.

6.1 The Owner shall record with the Oakland County Register of Deeds a Memorandum of Stormwater Management Operations and Maintenance Agreement which serves as notice of this Agreement in a title search, the template for which is set forth at ***Exhibit D*** to this Agreement.

Article VII. Claims and Authority.

The Owner, its agents, representatives, successors and assigns shall defend, indemnify and hold Community harmless from and against any claims, demands, actions, damages, injuries, costs or expenses of any nature whatsoever, hereinafter "Claims", fixed or contingent, known or unknown, arising out of or in any way connected with the design, construction, use, maintenance, repair or operation (or omissions in such regard) of the Stormwater System, appurtenances, connections and attachments thereto which are the subject of this Agreement. This indemnity and hold harmless shall include any costs, expenses and attorney fees incurred by Community in connection with such Claims or the enforcement of this Agreement.

7.1 The parties whose signatures appear below hereby represent and warrant that they have the authority and capacity to sign this agreement and bind the respective parties hereto.

IN WITNESS WHEREOF, the Owner and Community have executed this agreement on the day and year first above written.

Owner

By: _____

Its: _____

STATE OF MICHIGAN)

)ss.

_____ COUNTY)

The foregoing instrument was acknowledged before me on this_____ day of _____, 20 ___, by _____, the _____ of _____.

_____

Notary Public

Community

By: _____

Its: _____

STATE OF MICHIGAN)

)ss.

_____ COUNTY)

The foregoing instrument was acknowledged before me on this_____ day of _____, 20 ___, by _____, the _____ of _____.

_____

Notary Public

Explanation of Exhibits

Exhibit A – Legal Description: Provide a legal description and reduced copy map to identify the land parcel(s) affected by this Agreement. This exhibit must be customized for each site. It must include a reference to a Subdivision Plat, Certified Survey number, or Condominium Plat, and a map to illustrate the affected parcel(s).

Exhibit B – Stormwater System Description and Map: Provide a written description and location map of the Stormwater System. This exhibit must be customized for each site. Map scale must be sufficiently large enough to show necessary detail.

Exhibit C – Stormwater O&M Plan: This exhibit explains the basic function of the stormwater management operation and maintenance plan, schedule, and budget providing the minimum specific maintenance activities and frequencies for each practice. The minimum elements of this exhibit include a description of the drainage area and the installed Stormwater System, a description of the specific maintenance activities which should include the following in addition to specific maintenance actions:

- Employee training and duties,
- Routine service requirements,
- Operating, inspection, and maintenance schedules, and
- Detailed construction drawings showing all critical components and their elevations.

The plan must include maintenance tasks and schedules. Refer to the Low Impact Development Manual for Michigan for maintenance task checklists for permanent BMPs and create a table of applicable maintenance tasks and schedules.

Exhibit D – Template for Memorandum of Stormwater Management Operations and Maintenance Agreement: This exhibit contains a template for said Memorandum to be recorded with the County Register of Deeds to put any future owners, or interest holders, on notice of the Stormwater System and the Stormwater System O&M Plan.

WRC
WATER RESOURCES COMMISSIONER
Jim Nash

Memorandum of Stormwater Management Operations and Maintenance Agreement

The "Owner" _____ and the "Community" _____ have entered into a Stormwater Management Operations and Maintenance Agreement dated _____ for real property located in the State of Michigan, County of Oakland, City of _____ and further described as follows:

[real property description]

Commonly known as: _____

Parcel ID: _____

The Stormwater Management Operations and Maintenance Agreement provides for a stormwater management operation and maintenance plan for a stormwater system located on the real property. It authorizes easements for the local community to take enforcement action if the Agreement is breached. This Agreement runs with the land, binds all current and future owners of the real property and serves the real property in perpetuity.

Owner:

By: _____

Its: _____

STATE OF MICHIGAN)

)ss.

_____ COUNTY)

The foregoing instrument was acknowledged before me on this_____ day of _____, 2017, by _____, the _____ of _____.

_____

Notary Public

Recording Fee: $15.00

Drafted by and Return to:

Appendix H: Engineer's Certificate of Outlet

Date:

Oakland County Water Resources Commissioner

Building 95 West – One Public Works Drive

Waterford, Michigan 48328-1907

Attention: _____

Reference: Proposed _____

Location _____

Gentlemen:

ENGINEER'S CERTIFICATION

This is to certify that existing drain or watercourse (select one) is the only reasonable outlet for the proposed _(name of development)_____, located in the city/township/village (select one) of _____and that the existing drain or watercourse (select one) has sufficient capacity to serve as an adequate outlet for __(name of development)_____without detriment or diminution of the drainage services which the outlet presently provides.

_____

Registration No.: _____

REPORT TO THE CITY COUNCIL FROM THE CITY MANAGER

February 27, 2023

Subject: Approval to execute the American Rescue Plan Act (ARPA) Interlocal Agreement between the City of Farmington Hills and Oakland County.

ADMINISTRATIVE SUMMARY

On March 11, 2021, the President of the United States signed the American Rescue Plan Act of 2021 ("ARPA") into law. Section 9901 of ARPA amended Title VI of the Social Security Act to add section 603, which establishes the Coronavirus Local Fiscal Recovery Fund. Oakland County has been allocated $244,270,949 in Local Fiscal Recovery Fund ("LFRF") dollars under ARPA.

The funds are to assist the City of Farmington Hills Senior Center with improvement such as capital, technology, infrastructure, and equipment improvements. Upon the recommendation of the Healthy Aging Oakland County Ad Hoc Committee the Farmington Hills Senior Center's application has been approved in the amount of $150,000 will equal the local match up to $150,000.00 and that the grant award will not exceed said amount.

The City's match funds are past City of Farmington Hills Senior Center full time staff wages. The match fund is FY July 1, 2021, through June 30, 2022, City of Farmington Hills Senior Services Expenditure, Salaries and Wages, line item 101000-765-702-010. The match fund total is $150,000.00.

The $150,000 grant funds have been designated to be spent on:

- Hawk Fitness Area ADA Compliant Equipment including a Latitude Stability Trainer, Recumbent Elliptical, Inclusive Fitness Pro2 Upper Body Ergometer, and a Recumbent Cross Trainer
- Windscreens and shade structure for the Hawk's 10 Pickleball and 5 tennis courts
- Gym floor resurfacing and painting to include pickleball lines at the Hawk
- Replace Costick Pool Chair Lift
- Shower and Aquatic Pool Transfer Chairs at both the Hawk and Costick
- Economy Folding Tables, Plastic Seminar Tables, Stacking Chairs, Benches and Portable Room Dividers for Costick
- Projector & Laptop for Senior Division Use

RECOMMENDATION

In view of the above, it is recommended that the City Council approves the American Rescue Plan Act (ARPA) Interlocal Agreement between the City of Farmington Hills and Oakland County.

Prepared by: Marsha Koet, Senior Division Supervisor

Reviewed by: Bryan Farmer, Deputy Director of Special Services
Ellen Schnackel, Director of Special Services

Approved by: Gary Mekjian, City Manager

AGREEMENT FOR LOCAL FISCAL RECOVERY FUND DISTRIBUTION BETWEEN OAKLAND COUNTY AND
The City of Farmington Hills Senior Center

This Agreement (the "Agreement") is made between Oakland County, a Municipal and Constitutional Corporation, 1200 North Telegraph Road, Pontiac, Michigan 48341 ("County"), and the City of Farmington Hills Senior Center ("Public Body") 28600 Eleven Mile Road, Farmington Hills, Michigan 48336. County and Public Body may be referred to individually as a "Party" and jointly as "Parties".

PURPOSE OF AGREEMENT. On March 11, 2021, the President of the United States signed the American Rescue Plan Act of 2021 ("ARPA") into law. Section 9901 of ARPA amended Title VI of the Social Security Act to add section 603, which establishes the Coronavirus Local Fiscal Recovery Fund. Oakland County has been allocated $244,270,949 in Local Fiscal Recovery Fund ("LFRF") dollars under ARPA.

The United States Department of Treasury has issued an interim final rule, and other guidance for qualified uses of LFRF. Those qualified uses include supporting eligible investments in public health expenditures, addressing negative economic impacts caused by the public health emergency, replacing lost public sector revenue, providing premium pay for essential workers, and investing in water, sewer and broadband infrastructure. The County has determined that the distribution of funds in accordance with this Agreement is a qualified use of LFRF funds pursuant to the interim rule and other applicable Department of Treasury guidance.

The Oakland County Board of Commissioners approved amended Miscellaneous Resolution #22-280 and assigned $5,000,000 in ARPA LFRF funds to support Oakland Together Senior Initiatives, a grant program to provide Oakland County local governments and nonprofit senior organizations with financial assistance for senior center enhancements, such as capital, technology, infrastructure, equipment improvements, and/or professional development.

County and Public Body enter into this Agreement pursuant to the Urban Cooperation Act of 1967, 1967 Public Act 7, MCL 124.501 *et seq.,* for the purpose of County distributing a portion of its LFRF funds to Public Body.

In consideration of the mutual promises, obligations, representations, and assurances in this Agreement, the Parties agree to the following:

1. **DEFINITIONS**. The following words and expressions used throughout this Agreement, whether used in the singular or plural, shall be defined, read, and interpreted as follows:

    a. **Agreement** means the terms and conditions of this Agreement and any other mutually agreed to written and executed modification, amendment, exhibit and attachment.

    b. **Claims** mean any alleged losses, claims, complaints, demands for relief or damages, lawsuits, causes of action, proceedings, judgments, deficiencies, liabilities, penalties, litigation, costs, and expenses, including, but not limited to, reimbursement for reasonable attorney fees, witness fees, court costs, investigation expenses, litigation expenses, amounts paid in settlement, and/or other amounts or liabilities of any kind which are incurred by or asserted against County or Public Body, or for which County or Public Body may become legally and/or contractually obligated to pay or defend against, whether direct, indirect or consequential, whether based upon any alleged violation of the federal or the state constitution, any federal or state statute, rule, regulation, or any alleged violation of federal or state common law, whether any such claims are brought in law or equity, tort, contract, or

otherwise, and/or whether commenced or threatened.

c. **County** means Oakland County, a Municipal and Constitutional Corporation, including, but not limited to, all of its departments, divisions, the County Board of Commissioners, elected and appointed officials, directors, board members, council members, commissioners, authorities, committees, employees, agents, volunteers, and/or any such persons' successors.

d. **Day** means any calendar day beginning at 12:00 a.m. and ending at 11:59 p.m.

e. **Public Body** means the Farmington Hills Senior Center including, but not limited to, its council, its Board, its departments, its divisions, elected and appointed officials, directors, board members, council members, commissioners, authorities, committees, employees, agents, subcontractors, attorneys, volunteers, and/or any such persons' successors.

f. **Public Body Employee** means any employees, officers, directors, members, managers, trustees, volunteers, attorneys, representatives of Public Body, licensees, concessionaires, contractors, subcontractors, independent contractors, agents, and/or any such persons' successors or predecessors (whether such persons act or acted in their personal, representative or official capacities), and/or any persons acting by, through, under, or in concert with any of the above who use or have access to the funds provided under this Agreement. "Public Body Employee" shall also include any person who was a Public Body Employee at any time during the term of this Agreement but, for any reason, is no longer employed, appointed, or elected in that capacity.

2. **GRANT**. Subject to the terms and conditions of this Agreement, and in reliance upon the Public Body's affirmations set forth below, the County agrees to make, and the Public Body agrees to accept, the grant funds.

   a. County will distribute $150,000 in grant funds to Public Body for the project scope attached and incorporated into this Agreement as **Exhibit A**.

   b. PUBLIC BODY UNIQUE ENTITY IDENTIFIER (OR DUNS NUMBER): YKBNL46JDTV3.

   c. FEDERAL AWARD IDENTIFICATION NUMBER (FAIN): SLFRP2640

   d. CATALOG OF FEDERAL DOMESTIC ASSISTANCE (CFDA) NUMBER: 21.027

   e. FEDERAL AWARD DATE: May 28, 2021

   f. SUBAWARD PERIOD OF PERFORMANCE START AND END: March 1, 2023-December 31, 2026.

   g. AWARD IS NOT FOR RESEARCH & DEVELOPMENT (R&D): Funds cannot be used for research and development related expenditures.

   h. INDIRECT COST RATE FOR FEDERAL AWARD: Indirect costs are not eligible for this Agreement.

   i. CONTACT PERSON FOR COUNTY/PASS THROUGH ENTITY: Kenneth Dobson, unless another person is designated in writing by the County.

   j. DEFINED USE OF FUNDS: All grant funds must be expended in accordance with this Agreement and the guidelines for ARPA funds.

3. **PUBLIC BODY'S RESPONSIBILITIES.**

   a. Public Body's grant match requirements, if any, are detailed in **Exhibit B,** which is attached

hereto and incorporated as part of this Agreement.

b. Public Body shall invoice the County for the grant amount listed in 2.a. after this Agreement is executed.

c. Public Body shall submit to Oakland County quarterly reporting on the grant funds, including:
    1. Project progress reports, including completion of deliverables included in project scope;
    2. Accounting of incurred expenses and grant funds expended; and
    3. Any other relevant information or records, to be determined by County.

d. Public Body shall submit to Oakland County a final report by the end of the Agreement or within 30 days after final project completion, whichever date is sooner, on the grant funds, including:
    1. Project completion report;
    2. Full accounting of its expenditure of grant funds;
    3. Certification of its use of grant funds and fulfillment of the terms of the Agreement; and
    4. Any other relevant information or records, to be determined by County.

e. Public Body shall respond to and be responsible for Freedom of Information Act requests relating to Public Body's records, data, or other information.

f. Public Body must comply with any other reporting requirements regarding the grant funds and/or this Agreement, as determined by the County.

4. **COUNTY'S RESPONSIBILITIES.**

a. County shall designate in writing a department, individual, or other entity to oversee the reporting requirements set forth in Section 3 above to ensure timely reporting, accurate accounting, and verification of final certification.

b. County shall pay the invoice provided by the Public Body within 30 days of receiving it from the Public Body.

5. **PUBLIC BODY AFFIRMATIONS.**

a. Public Body affirms that any and all representations made to County in connection with its application and this grant were accurate, truthful and complete and remain so. Public Body acknowledges that all representations and information provided have been relied on by the County to provide funding under this Agreement. Public Body shall promptly notify County, in writing, of the occurrence of any event or any material change in circumstances which would make any Public Body representation or information untrue or incorrect or otherwise impair Public Body's ability to fulfill its obligations under this Agreement.

b. Public Body will comply with any federal, state, or local public health orders or mitigation recommendations regarding the COVID-19 pandemic which are in effect as of the date this Agreement is signed by both Parties.

c. Public Body may not use grant funds for expenses for which the Public Body has received any other federal funds or emergency COVID-19 supplemental funding, whether it be state, federal, or private in nature, for the same expense. No portion of grant funds may be used for the purpose of obtaining additional Federal funds under any other law of the United States, except if authorized by law. Public Body shall promptly notify County if it receives insurance proceeds or other disaster assistance (public or private) that duplicates the funding received under this Agreement.

Grant funds may not be used to cover expenses that were reimbursed by insurance.

d. Public Body shall not carry out any activities under this Agreement that results in a prohibited duplication of benefits as defined by Section 312 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5155) and in accordance with Section 1210 of the Disaster Recovery Reform Act of 2018 (division D of Public Law 115–254; 132 Stat. 3442), which amended Section 312 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5155). If the Public Body receives duplicate benefits from another source for projects related to this disaster, the Public Body must refund the benefits provided by the County to the County. Duplication of benefits occurs when Federal financial assistance is provided to a person or entity through a program to address losses resulting from a Federally-declared emergency or disaster, and the person or entity has received (or would receive, by acting reasonably to obtain available assistance) financial assistance for the same costs from any other source (including insurance), and the total amount received exceeds the total need for those costs.

e. Public Body shall use all grant funds it receives under this Agreement by December 31, 2026. Any grant funds not used by that date must be returned to County.

f. Public Body understands that the grant funds it receives under this Agreement are a subaward of County's LFRF funds, and that County is required to manage and monitor any subrecipient of LFRF funds. Therefore, Public Body agrees to comply with any subrecipient monitoring requirements established by County or by Federal law.

6. **REPAYMENT REMEDIES.** Public Body is subject to repayment to the County of an amount equal to the grant funds received by Public Body in the event Public Body has made material misrepresentations to the County in its application, voluntary bankruptcy or insolvency proceeding are commenced against the Public Body and not set aside within sixty (60) days, or the Public Body fails to otherwise comply with the requirements of this Agreement. In the event County later determines the information Public Body provided in conjunction with this Agreement, or that Public Body was ineligible for the grant funds, or that Public Body's use of the grant funds following receipt was contrary to this Agreement, Public Body agrees to repay the grant funds to County in full. County further retains all rights and remedies allowed in law or equity, including seeking payment of its reasonable costs and expenses incurred enforcing its rights and remedies.

7. **TAX LIABILITY.** County and Public Body agree that to the extent that any part of the aforementioned funds are deemed to be taxable, that Public Body agrees to be fully responsible for the payment of any taxes, including withholding payments, social security, or other funds which are required to be withheld. Public Body agrees to provide County with all information and cooperation necessary to execute a completed 1099-G form; which County will file with the United States Internal Revenue Service. Public Body acknowledges that Public Body will consult with a tax professional regarding the tax implications, if any, of the grant funds, and/or hereby waives the option to do so. Public Body further agrees to indemnify and hold County harmless for the payment of any tax or withholding payments, including any penalty assessed it may owe under this Agreement.

8. **CONFLICT OF INTEREST.** Pursuant to Public Act 317 and 318 of 1968, as amended (MCL 15.301, *et seq.* and MCL 15.321, *et seq.),* to avoid any real or perceived conflict of interest, Public Body shall disclose to County the identity of all Public Body Employees and all relatives of Public Body Employees who: a) are employed by the County or are elected or appointed officials of the County, on the date this Agreement is executed; and b) becomes employed or appointed by the County or becomes an elected official of County during the term of the Agreement.

9. **ACCESS TO RECORDS AND AUDIT.** Payments from ARPA funds are subject to 2 C.F.R. 200.303 regarding internal controls, 2 C.F.R. 200.331-333 regarding subrecipient monitoring and management, and 2 C.F.R. Part 200 Subpart F regarding audit requirements. Where applicable, these requirements are considered legally binding and enforceable under this Agreement. Oakland County reserves the right to use any legal remedy at its disposal including, but not limited to, disallowance of costs, withholding of funds or recoupment as may be necessary to satisfy requirements. Subawards or subcontracts, if any, shall contain a provision making them subject to all of the provisions in this Agreement.

   Public Body shall maintain all records pertinent to the Agreement and any amendments, including backup copies, for a period of five (5) years. The records shall be kept in accordance with generally accepted accounting practices, utilize adequate internal controls and shall maintain necessary documentation for all costs incurred, including documentation and an inventory of all equipment purchased with grant funds. These internal controls should be in compliance with guidance in "Standards for Internal Control in the Federal Government" issued by the Comptroller General of the United States or the "Internal Control Integrated Framework", issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

   In addition to County, the U.S. Department of Treasury, or their authorized representatives, shall be provided the right to audit all records pertaining to the expenditure and use of grant funds. All records with respect to any matters covered by this Agreement shall be made available to County, the Federal awarding agency, and the Comptroller General of the United States or any of their authorized representatives, at any time during normal business hours, as often as deemed necessary, to audit, examine, and make excerpts or transcripts of all relevant data. Any deficiencies noted in audit reports must be fully cleared by Public Body within 30 days after receipt by the Public Body. Failure of Public Body to comply with the audit requirements will constitute a violation of this Agreement.

   Fund payments are considered "other federal financial assistance" under Title 2 C.F.R. 200 – Uniform Administrative Requirements, Cost Principals, and Audit Requirements for Federal Awards ("Uniform Guidance") and are subject to the Single Audit Act Amendments of 1996 (31 U.S.C. 7501-7507 or program specific audit pursuant to 2 C.F.R. 200.501(a) when Public Body spends $750,000 or more in federal awards during their fiscal year.

   Fund payments are subject to 2 C.F.R. 200.303 regarding internal controls. Subrecipient must establish and maintain effective internal control over the Federal award that provides reasonable assurance that the Subrecipient is managing the award in compliance with Federal statutes, regulations, and the terms and conditions of the award.

   Fund payments are subject to 2 C.F.R. 200.330 through 200.332 regarding Public Body monitoring and management. Fund payments are subject to Subpart F regarding audit requirements. Failure of Public Body to comply with the audit requirements will constitute a violation of this Agreement. Public Body may be required to submit a copy of that audit to the County in accordance with the Uniform Guidance.

10. **COMPLIANCE WITH LAWS.** Public Body shall comply with all federal, state, and local laws, statutes, ordinances, regulations, and all requirements applicable to its activities under the Agreement and grant. This includes the following:

    a. Public Body must comply with 2 C.F.R. 200.303(e) and take reasonable measures to safeguard protected personally identifiable information, as defined in 2 C.F.R. 200.82, and other information

County designates as sensitive or the Public Body considers sensitive consistent with applicable Federal, state, and local laws regarding privacy and obligations of confidentiality.

b. Public Body must comply with 2 C.F.R. 200.322 if it is passing through grant funds/issuing subawards to other entities.

c. Public Body must comply with 31 U.S.C. Chapter 38, Administrative Remedies for False Claims and Statements. Public Body will not pass-through grant funds to an entity listed in the SAM Exclusions. SAM Exclusions is the list maintained by the General Services Administration that contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549. SAM exclusions can be accessed at www.sam.gov.

d. Public Body must register at sam.gov.

e. Public Body must comply with Title VI of the Civil Rights Act of 1964, and any implementing regulations, which prohibits entities receiving Federal financial assistance from excluding from a program or activity, denying benefits or services, or otherwise discriminating against a person on the basis of race, color, national origin (including limited English proficiency), disability, age, or sex (including sexual orientation and gender identity). All applicable U.S. Department of Treasury Title VI regulations are incorporated into this Agreement and made a part of this Agreement.

11. **DURATION OF INTERLOCAL AGREEMENT.**

a. This Agreement shall be effective when executed by both Parties with resolutions passed by the governing bodies of each Party. The approval and terms of this Agreement shall be entered in the official minutes of the governing bodies of each Party. An executed copy of this Agreement and any amendments shall be filed by the County Clerk with the Secretary of State.

b. This Agreement shall remain in effect until December 31, 2026, or until cancelled or terminated by any of the Parties pursuant to the terms of the Agreement. Public Body shall comply with the record keeping, reporting, audit response, and fund return requirements of this Agreement after the termination of this Agreement.

12. **ASSURANCES**.

a. **Responsibility for Claims.** Each Party shall be responsible for any Claims made against that Party by a third party, and for the acts of its employees arising under or related to this Agreement.

b. **Responsibility for Attorney Fees and Costs.** Except as provided for in Sections 7 and 14, in any Claim that may arise from the performance of this Agreement, each Party shall seek its own legal representation and bear the costs associated with such representation, including judgments and attorney fees.

c. **No Indemnification.** Except as otherwise provided for in this Agreement, neither Party shall have any right under this Agreement or under any other legal principle to be indemnified or reimbursed by the other Party or any of its agents in connection with any Claim.

d. **Costs, Fines, and Fees for Noncompliance.** Public Body shall be solely responsible for all costs, fines and fees associated with any misuse of the grant funds and/or for noncompliance with this Agreement by Public Body Employees.

e. **Reservation of Rights.** This Agreement does not, and is not intended to, impair, divest, delegate or contravene any constitutional, statutory, and/or other legal right, privilege, power, obligation, duty, or immunity of the Parties. Nothing in this Agreement shall be

construed as a waiver of governmental immunity for either Party.

f. **Authorization and Completion of Agreement.** The Parties have taken all actions and secured all approvals necessary to authorize and complete this Agreement. The persons signing this Agreement on behalf of each Party have legal authority to sign this Agreement and bind the Parties to the terms and conditions contained herein.

13. **TERMINATION OR CANCELLATION OF AGREEMENT**.

a. County may terminate or cancel this Agreement at any time if it determines that Public Body has expended the grant funds in violation of ARPA requirements or this Agreement. If County terminates or cancels this Agreement, Public Body shall be liable to repay County the amount of money expended in violation of ARPA requirements or this Agreement. County may utilize the provisions in Section 14 to recoup the amount of money owed to County by Public Body.

b. Public Body may terminate or cancel this Agreement at any time. If Public Body terminates or cancels this Agreement, it shall immediately return to County any and all grant funds it has received.

c. If either Party terminates or cancels this Agreement, they shall provide written notice to the other Party in the manner described in Section 21.

14. **SETOFF OR RETENTION OF FUNDS**

a. In any case where Public Body is required to return an amount of money to County under this Agreement, Public Body agrees that unless expressly prohibited by law, County or the Oakland County Treasurer, at their sole option, shall be entitled to set off from any other Public Body funds that are in County's possession for any reason, including but not limited to, the Oakland County Delinquent Tax Revolving Fund ("DTRF"), if applicable. Any setoff or retention of funds by County shall be deemed a voluntary assignment of the amount by Public Body to County. Public Body waives any Claims against County or its Officials for any acts related specifically to County's offsetting or retaining of such amounts. This paragraph shall not limit Public Body's legal right to dispute whether the underlying amount retained by County was actually due and owing under this Agreement.

b. Nothing in this Section shall operate to limit County's right to pursue or exercise any other legal rights or remedies under this Agreement or at law against Public Body to secure payment of amounts due to County under this Agreement. The remedies in this Section shall be available to County on an ongoing and successive basis if Public Body becomes delinquent in its payment. Notwithstanding any other term and condition in this Agreement, if County pursues any legal action in any court to secure its payment under this Agreement, Public Body agrees to pay all costs and expenses, including attorney fees and court costs, incurred by County in the collection of any amount owed by Public Body.

15. **DELEGATION OR ASSIGNMENT**. Neither Party shall delegate or assign any obligations or rights under this Agreement without the prior written consent of the other Party.

16. **NO THIRD-PARTY BENEFICIARIES**. Except as provided for the benefit of the Parties, this Agreement does not and is not intended to create any obligation, duty, promise, contractual right or benefit, right to indemnification, right to subrogation, and/or any other right in favor of any other person or entity.

17. **NO IMPLIED WAIVER**. Absent a written waiver, no act, failure, or delay by a Party to pursue or enforce any rights or remedies under this Agreement shall constitute a waiver of those rights with regard to any existing or subsequent breach of this Agreement. No waiver of any term, condition, or

provision of this Agreement, whether by conduct or otherwise, in one or more instances shall be deemed or construed as a continuing waiver of any term, condition, or provision of this Agreement. No waiver by either Party shall subsequently affect its right to require strict performance of this Agreement.

18. **SEVERABILITY**. If a court of competent jurisdiction finds a term or condition of this Agreement to be illegal or invalid, then the term or condition shall be deemed severed from this Agreement. All other terms, conditions, and provisions of this Agreement shall remain in full force.

19. **PRECEDENCE OF DOCUMENTS.** In the event of a conflict between the terms and conditions of any of the documents that comprise this Agreement, the terms in the Agreement shall prevail and take precedence over any allegedly conflicting terms and conditions.

20. **CAPTIONS**. The section and subsection numbers, captions, and any index to such sections and subsections contained in this Agreement are intended for the convenience of the reader and are not intended to have any substantive meaning. The numbers, captions, and indexes shall not be interpreted or be considered as part of this Agreement. Any use of the singular or plural, any reference to gender, and any use of the nominative, objective or possessive case in this Agreement shall be deemed the appropriate plurality, gender or possession as the context requires.

21. **NOTICES**. Notices given under this Agreement shall be in writing and shall be personally delivered, sent by express delivery service, certified mail, or first-class U.S. mail postage prepaid, and addressed to the person listed below. Notice will be deemed given on the date when one of the following first occur: (i) the date of actual receipt; (ii) the next business day when notice is sent express delivery service or personal delivery; or (iii) three days after mailing first class or certified U.S. mail.

    a. If Notice is sent to County, it shall be addressed and sent to: Oakland County Executive, 2100 Pontiac Lake Rd., Waterford, MI, 48328, and the Chairperson of the Oakland County Board of Commissioners, 1200 North Telegraph Road, Pontiac, MI, 48328.

    b. If Notice is sent to Public Body, it shall be addressed to: Farmington Hills Senior Center 28600 Eleven Mile Road, Farmington Hills, Michigan, 48336.

22. **GOVERNING LAW/CONSENT TO JURISDICTION AND VENUE**. This Agreement shall be governed, interpreted, and enforced by the laws of the State of Michigan. Except as otherwise required by law or court rule, any action brought to enforce, interpret, or decide any Claim arising under or related to this Agreement shall be brought in the 6th Judicial Circuit Court of the State of Michigan, the 50th District Court of the State of Michigan, or the United States District Court for the Eastern District of Michigan, Southern Division, as dictated by the applicable jurisdiction of the court. Except as otherwise required by law or court rule, venue is proper in the courts set forth above.

23. **SURVIVAL OF TERMS**. The Parties understand and agree that all terms and conditions of this Agreement that require continued performance, compliance, or effect beyond the termination date of the Agreement shall survive such termination date and shall be enforceable in the event of a failure to perform or comply.

24. **ENTIRE AGREEMENT**.

    a. This Agreement represents the entire agreement and understanding between the Parties regarding the grant funds, and supersedes all other oral or written agreements between the Parties.

    b. The language of this Agreement shall be construed as a whole according to its fair

meaning, and not construed strictly for or against any Party.

IN WITNESS WHEREOF, [insert name and title of public body official] hereby acknowledges that he/she has been authorized by a resolution of the [insert public body], a certified copy of which is attached, to execute this Agreement on behalf of Public Body and hereby accepts and binds Public Body to the terms and conditions of this Agreement.

EXECUTED: _____ DATE: _____
[insert name of official, title, and name of public body]

WITNESSED: _____ DATE: _____
[insert name, title]

IN WITNESS WHEREOF, David Woodward, Chairperson, Oakland County Board of Commissioners, hereby acknowledges that he has been authorized by a resolution of the Oakland County Board of Commissioners to execute this Agreement on behalf of Oakland County, and hereby accepts and binds Oakland County to the terms and conditions of this Agreement.

EXECUTED: _____ DATE: _____
David Woodward, Chairperson
Oakland County Board of Commissioners

WITNESSED: _____ DATE: _____
Oakland County Board of Commissioners
County of Oakland

EXHIBIT A

Hawk Fitness Area (All ADA compliant)

SciFit Latitude Stability Trainer ($5,058): Latitude™ | Lateral Stability Trainer | SCIFIT
SciFit REX Recumbent Elliptical ($5,070): REX™ | Total Body Recumbent Elliptical | SCIFIT
SciFit Inclusive Fitness Pro2 Upper Body Ergometer ($5,265): Inclusive Fitness PRO2® | Total Body | SCIFIT
NuStep T5 ($5,880.50): T5 Recumbent Cross Trainer | NuStep, Inc

Hawk Courts
Windscreens purchased and installed for 10 Pickleball and 5 Tennis Courts - $10,000
Shade structure for Pickleball and Tennis participants to shelter from weather - $20,000

Hawk Gym
Permanent lines and floor resurface for Pickleball - 13,743 sq ft $30,000

Aquatics
Replace Costick Pool Chair Lift ($17,500) AXS2 Pool Lift-ADA Compliant - $17,500
Shower and Aquatic Pool Transfer Chair (2 @ $600 each= $1,200)

Costick
Economy Folding Tables 96 X 30 ($145 each X 30= $4,350) ULINE
Economy Folding tables 72-round ($265 X 30= $7,950) ULINE
Plastic Seminar Tables 72 X 18 ($100 X 20= $2,000) ULINE
Portable Room Dividers ($2,185 X 2=$4,370) ULINE
Stacking Chair, wire frame, gray (250 x $100=$25,000) SMART BUSINESS SOURCE FKA OFFICSUPPLYGUYS

Benches/Hallway furniture - $4,016

Optoma UHD50X UHD Projector ($1,481)
Latitude 5520 Laptop ($859)

TOTAL $150,000

EXHIBIT B

Maximum Grant Award	Local Match
$150,000.00	$150,000.00

The City of Farmington Hills City Council acknowledges that the costs of project planning will be split evenly between the grant award and City Funds. The City of Farmington Hills City Council further acknowledges that the grant award will equal the local match up to $150,000.00 and that the grant award will not exceed said amount.

The City's match funds are past City of Farmington Hills Senior Center full time staff wages. The match fund is FY July 1, 2021, through June 30, 2022, City of Farmington Hills Expenditure Senior Services, Salaries and Wages, line item 101000-765-702-010. The match fund total is $150,000.00.

REPORT FROM THE CITY MANAGER TO CITY COUNCIL – February 27, 2023

SUBJECT: Approval of Agreement with Michigan Department of Transportation (MDOT) for the Pavement Rehabilitation Project on 14 Mile Road between Drake Road and Farmington Road.

Administrative Summary

- In February 2020, the City of Farmington Hills was awarded a Resurfacing, Restoration and Rehabilitation Grant (RRR) through the Oakland County Federal Aid Committee/Federal Highway Administration (FHWA) for the rehabilitation of 14 Mile Road between Drake Road and Farmington Road.

- The design was recently completed, and bids were received through the MDOT bid letting process on February 3, 2023.

- The project will be constructed during the spring and summer of 2023.

- Grant funding is available in the amount of $1,523,600 with the City being responsible for all of the non-participating costs and costs that exceed the overall grant limits.

- In-order to move forward with this grant subsidized project, MDOT requires that a formal agreement be approved by City Council. This is consistent with previous federal projects.

- The Engineering Division has reviewed the standard language of the contract and it is recommended that the City enter into this Agreement with MDOT.

RECOMMENDATION

IT IS RESOLVED, that the City Council of the City of Farmington Hills authorize the City Manager and City Clerk to enter into Agreement #22-5592 on behalf of the City with the Michigan Department of Transportation for the pavement rehabilitation of 14 Mile Road between Drake Road and Farmington Road.

Support Documentation

In February 2020, the City was awarded a RRR Grant for the rehabilitation of this roadway. The grant funding for the project is included in the MDOT 2023 budget and is being provided through the Federal Highway Administration ***Surface Transportation Program (STP).*** This grant covers up to $1,523,600 of the construction costs. Construction engineering is estimated at 15% of the construction cost and is the sole responsibility of the City.

Bids were opened through the MDOT bid letting process on February 3, 2023. We anticipate that the State will award the contract by early March with construction starting early April and completion in September of 2023. The scope of this project is rehabilitation of the pavement with minor curb repair.

The following illustrates the proposed MDOT agreement funding of this 2023 RRR Project:

ITEM	TOTAL ESTIMATED COST	SURFACE TRANSPORTATION PROGRAM	CITY SHARE
TOTAL	**$2,628,600**	**$1,523,599**	**$1,105,001**

The City's share of the road construction costs covered under this contract will be paid for using the City's Major Road fund. The City costs are currently identified in the current 2022-2023 budget.

An Open House meeting will be scheduled prior to the start of construction. Individual letters will be sent to all abutting property owners with contact information including the City Engineering representative's name, phone number, and e-mail address. The letter will also offer the property owners the opportunity to sign up for a listserv that will provide timely updates of progress on this project.

Prepared by:	Mark Saksewski, P.E., Senior Traffic Engineer
Reviewed by:	James Cubera, P.E., City Engineer
Departmental Authorization by:	Karen Mondora, P.E., Director of Public Services
Approval by:	Gary Mekjian, P.E., City Manager

STP, HIC DA

Control Section	STU 63000
Job Number	210722CON
Project	23A0178
CFDA No.	20.205 (Highway Research Planning & Construction)
Contract No.	22-5592

PART I

THIS CONTRACT, consisting of PART I and PART II (Standard Agreement Provisions), is made by and between the MICHIGAN DEPARTMENT OF TRANSPORTATION, hereinafter referred to as the "DEPARTMENT"; and the CITY OF FARMINGTON HILLS, a Michigan municipal corporation, hereinafter referred to as the "REQUESTING PARTY"; for the purpose of fixing the rights and obligations of the parties in agreeing to the following improvements, in Farmington Hills, Michigan, hereinafter referred to as the "PROJECT" and estimated in detail on EXHIBIT "I", dated February 13, 2023, attached hereto and made a part hereof:

Hot mix asphalt cold milling, pavement removal and resurfacing, concrete curb and gutter, sidewalk and curb ramps along 14 Mile Road from Drake Road to Farmington Road, including subgrade undercutting, aggregate base, drainage and permanent pavement markings; and all together with necessary related work.

WITNESSETH:

WHEREAS, pursuant to Federal law, monies have been provided for the performance of certain improvements on public roads; and

WHEREAS, the reference "FHWA" in PART I and PART II refers to the United States Department of Transportation, Federal Highway Administration; and

WHEREAS, the PROJECT, or portions of the PROJECT, at the request of the REQUESTING PARTY, are being programmed with the FHWA, for implementation with the use of Federal Funds under the following Federal program(s) or funding:

HIGHWAY INFRASTRUCTURE PROGRAM COVID
SURFACE TRANSPORTATION PROGRAM

WHEREAS, the parties hereto have reached an understanding with each other regarding the performance of the PROJECT work and desire to set forth this understanding in the form of a written contract.

NOW, THEREFORE, in consideration of the premises and of the mutual undertakings of the parties and in conformity with applicable law, it is agreed:

1. The parties hereto shall undertake and complete the PROJECT in accordance with the terms of this contract.

2. The term "PROJECT COST", as herein used, is hereby defined as the cost of the physical construction necessary for the completion of the PROJECT, including any other costs incurred by the DEPARTMENT as a result of this contract, except for construction engineering and inspection.

No charges will be made by the DEPARTMENT to the PROJECT for any inspection work or construction engineering.

The Michigan Department of Environment, Great Lakes, and Energy has informed the DEPARTMENT that it adopted new administrative rules (R 325.10101, et. seq.) which prohibit any governmental agency from connecting and/or reconnecting lead and/or galvanized service lines to existing and/or new water main. Questions regarding these administrative rules should be directed to the Michigan Department of Environment, Great Lakes, and Energy. The cost associated with replacement of any lead and/or galvanized service lines, including but not limited to contractor claims, will be the sole responsibility of the REQUESTING PARTY.

The costs incurred by the REQUESTING PARTY for preliminary engineering, construction engineering, construction materials testing, inspection, and right-of-way are excluded from the PROJECT COST as defined by this contract.

3. The DEPARTMENT is authorized by the REQUESTING PARTY to administer on behalf of the REQUESTING PARTY all phases of the PROJECT including advertising and awarding the construction contract for the PROJECT or portions of the PROJECT. Such administration shall be in accordance with PART II, Section II of this contract.

Any items of the PROJECT COST incurred by the DEPARTMENT may be charged to the PROJECT.

4. The REQUESTING PARTY, at no cost to the PROJECT or to the DEPARTMENT, shall:

A. Design or cause to be designed the plans for the PROJECT.

B. Appoint a project engineer who shall be in responsible charge of the PROJECT and ensure that the plans and specifications are followed.

C. Perform or cause to be performed the construction engineering, construction materials testing, and inspection services necessary for the completion of the PROJECT.

The REQUESTING PARTY will furnish the DEPARTMENT proposed timing sequences for trunkline signals that, if any, are being made part of the improvement. No timing adjustments shall be made by the REQUESTING PARTY at any trunkline intersection, without prior issuances by the DEPARTMENT of Standard Traffic Signal Timing Permits.

5. The PROJECT COST shall be met in part by contributions by the Federal Government. Federal Surface Transportation Funds in combination with Federal Highway Infrastructure Program COVID Funds shall be applied to the eligible items of the PROJECT COST. Federal Highway Infrastructure Program COVID Funds shall be applied to the eligible items of the PROJECT COST up to the lesser of: (1) $153,527, or (2) an amount such that 100 percent, the normal Federal participation ratio for such funds, is not exceeded at the time of the award of the construction contract. Federal Surface Transportation Funds shall then be applied to the eligible items of the PROJECT COST up to the lesser of: (1) $1,370,072, or (2) an amount such that 81.85 percent, the normal Federal participation ratio for such funds, is not exceeded at the time of the award of the construction contract. The balance of the PROJECT COST, after deduction of Federal Funds, shall be charged to and paid by the REQUESTING PARTY in the manner and at the times hereinafter set forth.

Any items of PROJECT COST not reimbursed by Federal Funds will be the sole responsibility of the REQUESTING PARTY.

6. No working capital deposit will be required for this PROJECT.

In order to fulfill the obligations assumed by the REQUESTING PARTY under the provisions of this contract, the REQUESTING PARTY shall make prompt payments of its share of the PROJECT COST upon receipt of progress billings from the DEPARTMENT as herein provided. All payments will be made within 30 days of receipt of billings from the DEPARTMENT. Billings to the REQUESTING PARTY will be based upon the REQUESTING PARTY'S share of the actual costs incurred less Federal Funds earned as the PROJECT progresses.

7. Upon completion of construction of the PROJECT, the REQUESTING PARTY will promptly cause to be enacted and enforced such ordinances or regulations as may be necessary to prohibit parking in the roadway right-of-way throughout the limits of the PROJECT.

8. The performance of the entire PROJECT under this contract, whether Federally funded or not, will be subject to the provisions and requirements of PART II that are applicable to a Federally funded project.

In the event of any discrepancies between PART I and PART II of this contract, the provisions of PART I shall prevail.

Buy America Requirements (23 CFR 365.410) shall apply to the PROJECT and will be adhered to, as applicable, by the parties hereto.

9. The REQUESTING PARTY certifies that it is not aware if and has no reason to believe that the property on which the work is to be performed under this agreement is a facility, as defined by the Michigan Natural Resources and Environmental Protection Act [(NREPA), PA 451, 1994, as amended 2012]; MCL 324.20101(1)(s). The REQUESTING PARTY also certifies that it is not a liable party pursuant to either Part 201 or Part 213 of NREPA, MCL 324.20126 et seq. and MCL 324.21323a et seq. The REQUESTING PARTY is a local unit of government that has acquired or will acquire property for the use of either a transportation corridor or public right-of-way and was not responsible for any activities causing a release or threat of release of any hazardous materials at or on the property. The REQUESTING PARTY is not a person who is liable for response activity costs, pursuant to MCL 324.20101 (vv) and (ww).

10. If, subsequent to execution of this contract, previously unknown hazardous substances are discovered within the PROJECT limits, which require environmental remediation pursuant to either state or federal law, the REQUESTING PARTY, in addition to reporting that fact to the Michigan Department of Environment, Great Lakes, and Energy, shall immediately notify the DEPARTMENT, both orally and in writing of such discovery. The DEPARTMENT shall consult with the REQUESTING PARTY to determine if it is willing to pay for the cost of remediation and, with the FHWA, to determine the eligibility, for reimbursement, of the remediation costs. The REQUESTING PARTY shall be charged for and shall pay all costs associated with such remediation, including all delay costs of the contractor for the PROJECT, in the event that remediation and delay costs are not deemed eligible by the FHWA. If the REQUESTING PARTY refuses to participate in the cost of remediation, the DEPARTMENT shall terminate the PROJECT. The parties agree that any costs or damages that the DEPARTMENT incurs as a result of such termination shall be considered a PROJECT COST.

11. If federal and/or state funds administered by the DEPARTMENT are used to pay the cost of remediating any hazardous substances discovered after the execution of this contract and if there is a reasonable likelihood of recovery, the REQUESTING PARTY, in cooperation with the Michigan Department of Environment, Great Lakes, and Energy and the DEPARTMENT, shall make a diligent effort to recover such costs from all other possible entities. If recovery is made, the DEPARTMENT shall be reimbursed from such recovery for

the proportionate share of the amount paid by the FHWA and/or the DEPARTMENT and the DEPARTMENT shall credit such sums to the appropriate funding source.

12. The DEPARTMENT'S sole reason for entering into this contract is to enable the REQUESTING PARTY to obtain and use funds provided by the Federal Highway Administration pursuant to Title 23 of the United States Code.

Any and all approvals of, reviews of, and recommendations regarding contracts, agreements, permits, plans, specifications, or documents, of any nature, or any inspections of work by the DEPARTMENT or its agents pursuant to the terms of this contract are done to assist the REQUESTING PARTY in meeting program guidelines in order to qualify for available funds. Such approvals, reviews, inspections and recommendations by the DEPARTMENT or its agents shall not relieve the REQUESTING PARTY and the local agencies, as applicable, of their ultimate control and shall not be construed as a warranty of their propriety or that the DEPARTMENT or its agents is assuming any liability, control or jurisdiction.

The providing of recommendations or advice by the DEPARTMENT or its agents does not relieve the REQUESTING PARTY and the local agencies, as applicable of their exclusive jurisdiction of the highway and responsibility under MCL 691.1402 et seq., as amended.

When providing approvals, reviews and recommendations under this contract, the DEPARTMENT or its agents is performing a governmental function, as that term is defined in MCL 691.1401 et seq., as amended, which is incidental to the completion of the PROJECT.

Upon completion of the PROJECT, the REQUESTING PARTY shall accept the facilities constructed as built to specifications within the contract documents. It is understood that the REQUESTING PARTY shall own the facilities and shall operate and maintain the facilities in accordance with all applicable Federal and State laws and regulations, including, but not limited to, Title II of the Americans with Disabilities Act (ADA), 42 USC 12131 et seq., and its associated regulations and standards, and DEPARTMENT Road and Bridge Standard Plans and the Standard Specifications for Construction

13. The DEPARTMENT, by executing this contract, and rendering services pursuant to this contract, has not and does not assume jurisdiction of the highway, described as the PROJECT for purposes of MCL 691.1402 et seq., as amended. Exclusive jurisdiction of such highway for the purposes of MCL 691.1402 et seq., as amended, rests with the REQUESTING PARTY and other local agencies having respective jurisdiction.

14. The REQUESTING PARTY shall approve all of the plans and specifications to be used on the PROJECT and shall be deemed to have approved all changes to the plans and specifications when put into effect. It is agreed that ultimate responsibility and control over the PROJECT rests with the REQUESTING PARTY and local agencies, as applicable.

15. The REQUESTING PARTY agrees that the costs reported to the DEPARTMENT for this contract will represent only those items that are properly chargeable in accordance with this contract. The REQUESTING PARTY also certifies that it has read the contract terms and has made itself aware of the applicable laws, regulations, and terms of this contract that apply to the reporting of costs incurred under the terms of this contract.

16. Each party to this contract will remain responsible for any and all claims arising out of its own acts and/or omissions during the performance of the contract, as provided by this contract or by law. In addition, this is not intended to increase or decrease either party's liability for or immunity from tort claims. This contract is also not intended to nor will it be interpreted as giving either party a right of indemnification, either by contract or by law, for claims arising out of the performance of this contract.

17. The parties shall promptly provide comprehensive assistance and cooperation in defending and resolving any claims brought against the DEPARTMENT by the contractor, vendors or suppliers as a result of the DEPARTMENT'S award of the construction contract for the PROJECT. Costs incurred by the DEPARTMENT in defending or resolving such claims shall be considered PROJECT COSTS.

18. The DEPARTMENT shall require the contractor who is awarded the contract for the construction of the PROJECT to provide insurance in the amounts specified and in accordance with the DEPARTMENT'S current Standard Specifications for Construction and to:

A. Maintain bodily injury and property damage insurance for the duration of the PROJECT.

B. Provide owner's protective liability insurance naming as insureds the State of Michigan, the Michigan State Transportation Commission, the DEPARTMENT and its officials, agents and employees, the REQUESTING PARTY and any other county, county road commission, or municipality in whose jurisdiction the PROJECT is located, and their employees, for the duration of the PROJECT and to provide, upon request, copies of certificates of insurance to the insureds. It is understood that the DEPARTMENT does not assume jurisdiction of the highway described as the PROJECT as a result of being named as an insured on the owner's protective liability insurance policy.

C. Comply with the requirements of notice of cancellation and reduction of insurance set forth in the current standard specifications for construction and to provide, upon request, copies of notices and reports prepared to those insured.

19. This contract shall become binding on the parties hereto and of full force and effect upon the signing thereof by the duly authorized officials for the parties hereto and upon the adoption of the necessary resolutions approving said contract and authorizing the signatures thereto of the respective officials of the REQUESTING PARTY, a certified copy of which resolution shall be attached to this contract.

IN WITNESS WHEREOF, the parties hereto have caused this contract to be executed as written below.

CITY OF FARMINGTON HILLS

By_____
Title:

By_____
Title:

MICHIGAN DEPARTMENT
OF TRANSPORTATION

By_____
Department Director MDOT

REVIEWED
By Larry Doyle at 11:02 am, 2/17/23

February 13, 2023

EXHIBIT I

CONTROL SECTION	STU 63000
JOB NUMBER	210722CON
PROJECT	23A0178

ESTIMATED COST

CONTRACTED WORK

Estimated Cost	$2,628,600

COST PARTICIPATION

GRAND TOTAL ESTIMATED COST	$2,628,600
Less Federal Funds	$1,523,599
BALANCE (REQUESTING PARTY'S SHARE)	$1,105,001

NO DEPOSIT

PART II

STANDARD AGREEMENT PROVISIONS

SECTION I COMPLIANCE WITH REGULATIONS AND DIRECTIVES

SECTION II PROJECT ADMINISTRATION AND SUPERVISION

SECTION III ACCOUNTING AND BILLING

SECTION IV MAINTENANCE AND OPERATION

SECTION V SPECIAL PROGRAM AND PROJECT CONDITIONS

SECTION I

COMPLIANCE WITH REGULATIONS AND DIRECTIVES

A. To qualify for eligible cost, all work shall be documented in accordance with the requirements and procedures of the DEPARTMENT.

B. All work on projects for which reimbursement with Federal funds is requested shall be performed in accordance with the requirements and guidelines set forth in the following Directives of the Federal-Aid Policy Guide (FAPG) of the FHWA, as applicable, and as referenced in pertinent sections of Title 23 and Title 49 of the Code of Federal Regulations (CFR), and all supplements and amendments thereto.

1. Engineering

   a. FAPG (6012.1): Preliminary Engineering

   b. FAPG (23 CFR 172): Administration of Engineering and Design Related Service Contracts

   c. FAPG (23 CFR 635A): Contract Procedures

   d. FAPG (49 CFR 18.22): Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments–Allowable Costs

2. Construction

   a. FAPG (23 CFR 140E): Administrative Settlement Costs-Contract Claims

   b. FAPG (23 CFR 140B): Construction Engineering Costs

   c. FAPG (23 CFR 17): Recordkeeping and Retention Requirements for Federal-Aid Highway Records of State Highway Agencies

   d. FAPG (23 CFR 635A): Contract Procedures

   e. FAPG (23 CFR 635B): Force Account Construction

   f. FAPG (23 CFR 645A): Utility Relocations, Adjustments and Reimbursement

g. FAPG (23 CFR 645B): Accommodation of Utilities (PPM 30-4.1)

h. FAPG (23 CFR 655F): Traffic Control Devices on Federal-Aid and other Streets and Highways

i. FAPG (49 CFR 18.22): Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments–Allowable Costs

3. Modification Or Construction Of Railroad Facilities

a. FAPG (23 CFR 140I): Reimbursement for Railroad Work

b. FAPG (23 CFR 646B): Railroad Highway Projects

C. In conformance with FAPG (23 CFR 630C) Project Agreements, the political subdivisions party to this contract, on those Federally funded projects which exceed a total cost of $100,000.00 stipulate the following with respect to their specific jurisdictions:

1. That any facility to be utilized in performance under or to benefit from this contract is not listed on the Environmental Protection Agency (EPA) List of Violating Facilities issued pursuant to the requirements of the Federal Clean Air Act, as amended, and the Federal Water Pollution Control Act, as amended.

2. That they each agree to comply with all of the requirements of Section 114 of the Federal Clean Air Act and Section 308 of the Federal Water Pollution Control Act, and all regulations and guidelines issued thereunder.

3. That as a condition of Federal aid pursuant to this contract they shall notify the DEPARTMENT of the receipt of any advice indicating that a facility to be utilized in performance under or to benefit from this contract is under consideration to be listed on the EPA List of Violating Facilities.

D. Ensure that the PROJECT is constructed in accordance with and incorporates all committed environmental impact mitigation measures listed in approved environmental documents unless modified or deleted by approval of the FHWA.

E. All the requirements, guidelines, conditions and restrictions noted in all other pertinent Directives and Instructional Memoranda of the FHWA will apply to this contract and will be adhered to, as applicable, by the parties hereto.

SECTION II

PROJECT ADMINISTRATION AND SUPERVISION

A. The DEPARTMENT shall provide such administrative guidance as it determines is required by the PROJECT in order to facilitate the obtaining of available federal and/or state funds.

B. The DEPARTMENT will advertise and award all contracted portions of the PROJECT work. Prior to advertising of the PROJECT for receipt of bids, the REQUESTING PARTY may delete any portion or all of the PROJECT work. After receipt of bids for the PROJECT, the REQUESTING PARTY shall have the right to reject the amount bid for the PROJECT prior to the award of the contract for the PROJECT only if such amount exceeds by ten percent (10%) the final engineer's estimate therefor. If such rejection of the bids is not received in writing within two (2) weeks after letting, the DEPARTMENT will assume concurrence. The DEPARTMENT may, upon request, readvertise the PROJECT. Should the REQUESTING PARTY so request in writing within the aforesaid two (2) week period after letting, the PROJECT will be cancelled and the DEPARTMENT will refund the unused balance of the deposit less all costs incurred by the DEPARTMENT.

C. The DEPARTMENT will perform such inspection services on PROJECT work performed by the REQUESTING PARTY with its own forces as is required to ensure compliance with the approved plans & specifications.

D. On those projects funded with Federal monies, the DEPARTMENT shall as may be required secure from the FHWA approval of plans and specifications, and such cost estimates for FHWA participation in the PROJECT COST.

E. All work in connection with the PROJECT shall be performed in conformance with the Michigan Department of Transportation Standard Specifications for Construction, and the supplemental specifications, Special Provisions and plans pertaining to the PROJECT and all materials furnished and used in the construction of the PROJECT shall conform to the aforesaid specifications. No extra work shall be performed nor changes in plans and specifications made until said work or changes are approved by the project engineer and authorized by the DEPARTMENT.

F. Should it be necessary or desirable that portions of the work covered by this contract be accomplished by a consulting firm, a railway company, or governmental agency, firm, person, or corporation, under a subcontract with the REQUESTING PARTY at PROJECT expense, such subcontracted arrangements will be covered by formal written agreement between the REQUESTING PARTY and that party.

This formal written agreement shall: include a reference to the specific prime contract to which it pertains; include provisions which clearly set forth the maximum reimbursable and the basis of payment; provide for the maintenance of accounting records in accordance with generally accepted accounting principles, which clearly document the actual cost of the services provided; provide that costs eligible for reimbursement shall be in accordance with clearly defined cost criteria such as 49 CFR Part 18, 48 CFR Part 31, 23 CFR Part 140, OMB Circular A-87, etc. as applicable; provide for access to the department or its representatives to inspect and audit all data and records related to the agreement for a minimum of three years after the department's final payment to the local unit.

All such agreements will be submitted for approval by the DEPARTMENT and, if applicable, by the FHWA prior to execution thereof, except for agreements for amounts less than $100,000 for preliminary engineering and testing services executed under and in accordance with the provisions of the "Small Purchase Procedures" FAPG (23 CFR 172), which do not require prior approval of the DEPARTMENT or the FHWA.

Any such approval by the DEPARTMENT shall in no way be construed as a warranty of the subcontractor's qualifications, financial integrity, or ability to perform the work being subcontracted.

G. The REQUESTING PARTY, at no cost to the PROJECT or the DEPARTMENT, shall make such arrangements with railway companies, utilities, etc., as may be necessary for the performance of work required for the PROJECT but for which Federal or other reimbursement will not be requested.

H. The REQUESTING PARTY, at no cost to the PROJECT, or the DEPARTMENT, shall secure, as necessary, all agreements and approvals of the PROJECT with railway companies, the Railroad Safety & Tariffs Division of the DEPARTMENT and other concerned governmental agencies other than the FHWA, and will forward same to the DEPARTMENT for such reviews and approvals as may be required.

I. No PROJECT work for which reimbursement will be requested by the REQUESTING PARTY is to be subcontracted or performed until the DEPARTMENT gives written notification that such work may commence.

J. The REQUESTING PARTY shall be responsible for the payment of all costs and expenses incurred in the performance of the work it agrees to undertake and perform.

K. The REQUESTING PARTY shall pay directly to the party performing the work all billings for the services performed on the PROJECT which are authorized by or through the REQUESTING PARTY.

L. The REQUESTING PARTY shall submit to the DEPARTMENT all paid billings for which reimbursement is desired in accordance with DEPARTMENT procedures.

M. All work by a consulting firm will be performed in compliance with the applicable provisions of 1980 PA 299, Subsection 2001, MCL 339.2001; MSA 18.425(2001), as well as in accordance with the provisions of all previously cited Directives of the FHWA.

N. The project engineer shall be subject to such administrative guidance as may be deemed necessary to ensure compliance with program requirement and, in those instances where a consultant firm is retained to provide engineering and inspection services, the personnel performing those services shall be subject to the same conditions.

O. The DEPARTMENT, in administering the PROJECT in accordance with applicable Federal and State requirements and regulations, neither assumes nor becomes liable for any obligations undertaken or arising between the REQUESTING PARTY and any other party with respect to the PROJECT.

P. In the event it is determined by the DEPARTMENT that there will be either insufficient Federal funds or insufficient time to properly administer such funds for the entire PROJECT or portions thereof, the DEPARTMENT, prior to advertising or issuing authorization for work performance, may cancel the PROJECT, or any portion thereof, and upon written notice to the parties this contract shall be void and of no effect with respect to that cancelled portion of the PROJECT. Any PROJECT deposits previously made by the parties on the cancelled portions of the PROJECT will be promptly refunded.

Q. Those projects funded with Federal monies will be subject to inspection at all times by the DEPARTMENT and the FHWA.

SECTION III

ACCOUNTING AND BILLING

A. Procedures for billing for work undertaken by the REQUESTING PARTY:

1. The REQUESTING PARTY shall establish and maintain accurate records, in accordance with generally accepted accounting principles, of all expenses incurred for which payment is sought or made under this contract, said records to be hereinafter referred to as the "RECORDS". Separate accounts shall be established and maintained for all costs incurred under this contract.

The REQUESTING PARTY shall maintain the RECORDS for at least three (3) years from the date of final payment of Federal Aid made by the DEPARTMENT under this contract. In the event of a dispute with regard to the allowable expenses or any other issue under this contract, the REQUESTING PARTY shall thereafter continue to maintain the RECORDS at least until that dispute has been finally decided and the time for all available challenges or appeals of that decision has expired.

The DEPARTMENT, or its representative, may inspect, copy, or audit the RECORDS at any reasonable time after giving reasonable notice.

If any part of the work is subcontracted, the REQUESTING PARTY shall assure compliance with the above for all subcontracted work.

In the event that an audit performed by or on behalf of the DEPARTMENT indicates an adjustment to the costs reported under this contract, or questions the allowability of an item of expense, the DEPARTMENT shall promptly submit to the REQUESTING PARTY, a Notice of Audit Results and a copy of the audit report which may supplement or modify any tentative findings verbally communicated to the REQUESTING PARTY at the completion of an audit.

Within sixty (60) days after the date of the Notice of Audit Results, the REQUESTING PARTY shall: (a) respond in writing to the responsible Bureau or the DEPARTMENT indicating whether or not it concurs with the audit report, (b) clearly explain the nature and basis for any disagreement as to a disallowed item of expense and, (c) submit to the DEPARTMENT a written explanation as to any questioned or no opinion expressed item of expense, hereinafter referred to as the "RESPONSE". The RESPONSE shall be clearly stated and provide any supporting documentation necessary to resolve any disagreement or questioned or no opinion expressed item of expense. Where the documentation is voluminous, the REQUESTING PARTY may supply appropriate excerpts and make alternate

arrangements to conveniently and reasonably make that documentation available for review by the DEPARTMENT. The RESPONSE shall refer to and apply the language of the contract. The REQUESTING PARTY agrees that failure to submit a RESPONSE within the sixty (60) day period constitutes agreement with any disallowance of an item of expense and authorizes the DEPARTMENT to finally disallow any items of questioned or no opinion expressed cost.

The DEPARTMENT shall make its decision with regard to any Notice of Audit Results and RESPONSE within one hundred twenty (120) days after the date of the Notice of Audit Results. If the DEPARTMENT determines that an overpayment has been made to the REQUESTING PARTY, the REQUESTING PARTY shall repay that amount to the DEPARTMENT or reach agreement with the DEPARTMENT on a repayment schedule within thirty (30) days after the date of an invoice from the DEPARTMENT. If the REQUESTING PARTY fails to repay the overpayment or reach agreement with the DEPARTMENT on a repayment schedule within the thirty (30) day period, the REQUESTING PARTY agrees that the DEPARTMENT shall deduct all or a portion of the overpayment from any funds then or thereafter payable by the DEPARTMENT to the REQUESTING PARTY under this contract or any other agreement, or payable to the REQUESTING PARTY under the terms of 1951 PA 51, as applicable. Interest will be assessed on any partial payments or repayment schedules based on the unpaid balance at the end of each month until the balance is paid in full. The assessment of interest will begin thirty (30) days from the date of the invoice. The rate of interest will be based on the Michigan Department of Treasury common cash funds interest earnings. The rate of interest will be reviewed annually by the DEPARTMENT and adjusted as necessary based on the Michigan Department of Treasury common cash funds interest earnings. The REQUESTING PARTY expressly consents to this withholding or offsetting of funds under those circumstances, reserving the right to file a lawsuit in the Court of Claims to contest the DEPARTMENT'S decision only as to any item of expense the disallowance of which was disputed by the REQUESTING PARTY in a timely filed RESPONSE.

The REQUESTING PARTY shall comply with the Single Audit Act of 1984, as amended, including, but not limited to, the Single Audit Amendments of 1996 (31 USC 7501-7507).

The REQUESTING PARTY shall adhere to the following requirements associated with audits of accounts and records:

a. Agencies expending a total of $500,000 or more in federal funds, from one or more funding sources in its fiscal year, shall comply with the requirements of the federal Office of Management and Budget (OMB) Circular A-133, as revised or amended.

The agency shall submit two copies of:

The Reporting Package
The Data Collection Form
The management letter to the agency, if one issued by the audit firm

The OMB Circular A-133 audit must be submitted to the address below in accordance with the time frame established in the circular, as revised or amended.

b. Agencies expending less than $500,000 in federal funds must submit a letter to the Department advising that a circular audit was not required. The letter shall indicate the applicable fiscal year, the amount of federal funds spent, the name(s) of the Department federal programs, and the CFDA grant number(s). This information must also be submitted to the address below.

c. Address: Michigan Department of Education
Accounting Service Center
Hannah Building
608 Allegan Street
Lansing, MI 48909

d. Agencies must also comply with applicable State laws and regulations relative to audit requirements.

e. Agencies shall not charge audit costs to Department's federal programs which are not in accordance with the OMB Circular A-133 requirements.

f. All agencies are subject to the federally required monitoring activities, which may include limited scope reviews and other on-site monitoring.

2. Agreed Unit Prices Work - All billings for work undertaken by the REQUESTING PARTY on an agreed unit price basis will be submitted in accordance with the Michigan Department of Transportation Standard Specifications for Construction and pertinent FAPG Directives and Guidelines of the FHWA.

3. Force Account Work and Subcontracted Work - All billings submitted to the DEPARTMENT for Federal reimbursement for items of work performed on a force account basis or by any subcontract with a consulting firm, railway company, governmental agency or other party, under the terms of this contract, shall be prepared in accordance with the provisions of the pertinent FHPM Directives and the procedures of the DEPARTMENT. Progress billings may be submitted monthly during the time work is being performed provided, however, that no bill of a lesser amount than $1,000.00 shall be submitted unless it is a final

or end of fiscal year billing. All billings shall be labeled either "Progress Bill Number _____", or "Final Billing".

4. Final billing under this contract shall be submitted in a timely manner but not later than six months after completion of the work. Billings for work submitted later than six months after completion of the work will not be paid.

5. Upon receipt of billings for reimbursement for work undertaken by the REQUESTING PARTY on projects funded with Federal monies, the DEPARTMENT will act as billing agent for the REQUESTING PARTY, consolidating said billings with those for its own force account work and presenting these consolidated billings to the FHWA for payment. Upon receipt of reimbursement from the FHWA, the DEPARTMENT will promptly forward to the REQUESTING PARTY its share of said reimbursement.

6. Upon receipt of billings for reimbursement for work undertaken by the REQUESTING PARTY on projects funded with non-Federal monies, the DEPARTMENT will promptly forward to the REQUESTING PARTY reimbursement of eligible costs.

B. Payment of Contracted and DEPARTMENT Costs:

1. As work on the PROJECT commences, the initial payments for contracted work and/or costs incurred by the DEPARTMENT will be made from the working capital deposit. Receipt of progress payments of Federal funds, and where applicable, State Critical Bridge funds, will be used to replenish the working capital deposit. The REQUESTING PARTY shall make prompt payments of its share of the contracted and/or DEPARTMENT incurred portion of the PROJECT COST upon receipt of progress billings from the DEPARTMENT. Progress billings will be based upon the REQUESTING PARTY'S share of the actual costs incurred as work on the PROJECT progresses and will be submitted, as required, until it is determined by the DEPARTMENT that there is sufficient available working capital to meet the remaining anticipated PROJECT COSTS. All progress payments will be made within thirty (30) days of receipt of billings. No monthly billing of a lesser amount than $1,000.00 will be made unless it is a final or end of fiscal year billing. Should the DEPARTMENT determine that the available working capital exceeds the remaining anticipated PROJECT COSTS, the DEPARTMENT may reimburse the REQUESTING PARTY such excess. Upon completion of the PROJECT, payment of all PROJECT COSTS, receipt of all applicable monies from the FHWA, and completion of necessary audits, the REQUESTING PARTY will be reimbursed the balance of its deposit.

2. In the event that the bid, plus contingencies, for the contracted, and/or the DEPARTMENT incurred portion of the PROJECT work exceeds the estimated cost therefor as established by this contract, the REQUESTING PARTY may be advised and billed for the additional amount of its share.

C. General Conditions:

1. The DEPARTMENT, in accordance with its procedures in existence and covering the time period involved, shall make payment for interest earned on the balance of working capital deposits for all projects on account with the DEPARTMENT. The REQUESTING PARTY in accordance with DEPARTMENT procedures in existence and covering the time period involved, shall make payment for interest owed on any deficit balance of working capital deposits for all projects on account with the DEPARTMENT. This payment or billing is processed on an annual basis corresponding to the State of Michigan fiscal year. Upon receipt of billing for interest incurred, the REQUESTING PARTY promises and shall promptly pay the DEPARTMENT said amount.

2. Pursuant to the authority granted by law, the REQUESTING PARTY hereby irrevocably pledges a sufficient amount of funds received by it from the Michigan Transportation Fund to meet its obligations as specified in PART I and PART II. If the REQUESTING PARTY shall fail to make any of its required payments when due, as specified herein, the DEPARTMENT shall immediately notify the REQUESTING PARTY and the State Treasurer of the State of Michigan or such other state officer or agency having charge and control over disbursement of the Michigan Transportation Fund, pursuant to law, of the fact of such default and the amount thereof, and, if such default is not cured by payment within ten (10) days, said State Treasurer or other state officer or agency is then authorized and directed to withhold from the first of such monies thereafter allocated by law to the REQUESTING PARTY from the Michigan Transportation Fund sufficient monies to remove the default, and to credit the REQUESTING PARTY with payment thereof, and to notify the REQUESTING PARTY in writing of such fact.

3. Upon completion of all work under this contract and final audit by the DEPARTMENT or the FHWA, the REQUESTING PARTY promises to promptly repay the DEPARTMENT for any disallowed items of costs previously disbursed by the DEPARTMENT. The REQUESTING PARTY pledges its future receipts from the Michigan Transportation Fund for repayment of all disallowed items and, upon failure to make repayment for any disallowed items within ninety (90) days of demand made by the DEPARTMENT, the DEPARTMENT is hereby authorized to withhold an equal amount from the REQUESTING PARTY'S share of any future distribution of Michigan Transportation Funds in settlement of said claim.

4. The DEPARTMENT shall maintain and keep accurate records and accounts relative to the cost of the PROJECT and upon completion of the PROJECT, payment of all items of PROJECT COST, receipt of all Federal Aid, if any, and completion of final audit by the DEPARTMENT and if applicable, by the FHWA, shall make final accounting to the REQUESTING PARTY. The final PROJECT accounting will not include interest earned or charged on working capital deposited for the PROJECT which will be accounted for separately at the close of the State of Michigan fiscal year and as set forth in Section C(1).

5. The costs of engineering and other services performed on those projects involving specific program funds and one hundred percent (100%) local funds will be apportioned to the respective portions of that project in the same ratio as the actual direct construction costs unless otherwise specified in PART I.

SECTION IV

MAINTENANCE AND OPERATION

A. Upon completion of construction of each part of the PROJECT, at no cost to the DEPARTMENT or the PROJECT, each of the parties hereto, within their respective jurisdictions, will make the following provisions for the maintenance and operation of the completed PROJECT:

1. All Projects:

Properly maintain and operate each part of the project, making ample provisions each year for the performance of such maintenance work as may be required, except as qualified in paragraph 2b of this section.

2. Projects Financed in Part with Federal Monies:

a. Sign and mark each part of the PROJECT, in accordance with the current Michigan Manual of Uniform Traffic control Devices, and will not install, or permit to be installed, any signs, signals or markings not in conformance with the standards approved by the FHWA, pursuant to 23 USC 109(d).

b. Remove, prior to completion of the PROJECT, all encroachments from the roadway right-of-way within the limits of each part of the PROJECT.

With respect to new or existing utility installations within the right-of-way of Federal Aid projects and pursuant to FAPG (23 CFR 645B): Occupancy of non-limited access right-of-way may be allowed based on consideration for traffic safety and necessary preservation of roadside space and aesthetic quality. Longitudinal occupancy of non-limited access right-of-way by private lines will require a finding of significant economic hardship, the unavailability of practicable alternatives or other extenuating circumstances.

c. Cause to be enacted, maintained and enforced, ordinances and regulations for proper traffic operations in accordance with the plans of the PROJECT.

d. Make no changes to ordinances or regulations enacted, or traffic controls installed in conjunction with the PROJECT work without prior review by the DEPARTMENT and approval of the FHWA, if required.

B. On projects for the removal of roadside obstacles, the parties, upon completion of construction of each part of the PROJECT, at no cost to the PROJECT or the DEPARTMENT, will, within their respective jurisdictions, take such action as is necessary to assure that the roadway right-of-way, cleared as the PROJECT, will be maintained free of such obstacles.

C. On projects for the construction of bikeways, the parties will enact no ordinances or regulations prohibiting the use of bicycles on the facility hereinbefore described as the PROJECT, and will amend any existing restrictive ordinances in this regard so as to allow use of this facility by bicycles. No motorized vehicles shall be permitted on such bikeways or walkways constructed as the PROJECT except those for maintenance purposes.

D. Failure of the parties hereto to fulfill their respective responsibilities as outlined herein may disqualify that party from future Federal-aid participation in projects on roads or streets for which it has maintenance responsibility. Federal Aid may be withheld until such time as deficiencies in regulations have been corrected, and the improvements constructed as the PROJECT are brought to a satisfactory condition of maintenance.

SECTION V

SPECIAL PROGRAM AND PROJECT CONDITIONS

A. Those projects for which the REQUESTING PARTY has been reimbursed with Federal monies for the acquisition of right-of-way must be under construction by the close of the twentieth (20th) fiscal year following the fiscal year in which the FHWA and the DEPARTMENT projects agreement covering that work is executed, or the REQUESTING PARTY may be required to repay to the DEPARTMENT, for forwarding to the FHWA, all monies distributed as the FHWA'S contribution to that right-of-way.

B. Those projects for which the REQUESTING PARTY has been reimbursed with Federal monies for the performance of preliminary engineering must be under construction by the close of the tenth (10th) fiscal year following the fiscal year in which the FHWA and the DEPARTMENT projects agreement covering that work is executed, or the REQUESTING PARTY may be required to repay to the DEPARTMENT, for forwarding to the FHWA, all monies distributed as the FHWA'S contribution to that preliminary engineering.

C. On those projects funded with Federal monies, the REQUESTING PARTY, at no cost to the PROJECT or the DEPARTMENT, will provide such accident information as is available and such other information as may be required under the program in order to make the proper assessment of the safety benefits derived from the work performed as the PROJECT. The REQUESTING PARTY will cooperate with the DEPARTMENT in the development of reports and such analysis as may be required and will, when requested by the DEPARTMENT, forward to the DEPARTMENT, in such form as is necessary, the required information.

D. In connection with the performance of PROJECT work under this contract the parties hereto (hereinafter in Appendix "A" referred to as the "contractor") agree to comply with the State of Michigan provisions for "Prohibition of Discrimination in State Contracts", as set forth in Appendix A, attached hereto and made a part hereof. The parties further covenant that they will comply with the Civil Rights Acts of 1964, being P.L. 88-352, 78 Stat. 241, as amended, being Title 42 U.S.C. Sections 1971, 1975a-1975d, and 2000a-2000h-6 and the Regulations of the United States Department of Transportation (49 C.F.R. Part 21) issued pursuant to said Act, including Appendix "B", attached hereto and made a part hereof, and will require similar covenants on the part of any contractor or subcontractor employed in the performance of this contract.

E. The parties will carry out the applicable requirements of the DEPARTMENT'S Disadvantaged Business Enterprise (DBE) program and 49 CFR, Part 26, including, but not limited to, those requirements set forth in Appendix C.

APPENDIX A
PROHIBITION OF DISCRIMINATION IN STATE CONTRACTS

In connection with the performance of work under this contract; the contractor agrees as follows:

1. In accordance with Public Act 453 of 1976 (Elliott-Larsen Civil Rights Act), the contractor shall not discriminate against an employee or applicant for employment with respect to hire, tenure, treatment, terms, conditions, or privileges of employment or a matter directly or indirectly related to employment because of race, color, religion, national origin, age, sex, height, weight, or marital status. A breach of this covenant will be regarded as a material breach of this contract. Further, in accordance with Public Act 220 of 1976 (Persons with Disabilities Civil Rights Act), as amended by Public Act 478 of 1980, the contractor shall not discriminate against any employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment or a matter directly or indirectly related to employment because of a disability that is unrelated to the individual's ability to perform the duties of a particular job or position. A breach of the above covenants will be regarded as a material breach of this contract.

2. The contractor hereby agrees that any and all subcontracts to this contract, whereby a portion of the work set forth in this contract is to be performed, shall contain a covenant the same as hereinabove set forth in Section 1 of this Appendix.

3. The contractor will take affirmative action to ensure that applicants for employment and employees are treated without regard to their race, color, religion, national origin, age, sex, height, weight, marital status, or any disability that is unrelated to the individual's ability to perform the duties of a particular job or position. Such action shall include, but not be limited to, the following: employment; treatment; upgrading; demotion or transfer; recruitment; advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

4. The contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, age, sex, height, weight, marital status, or disability that is unrelated to the individual's ability to perform the duties of a particular job or position.

5. The contractor or its collective bargaining representative shall send to each labor union or representative of workers with which the contractor has a collective bargaining agreement or other contract or understanding a notice advising such labor union or workers' representative of the contractor's commitments under this Appendix.

6. The contractor shall comply with all relevant published rules, regulations, directives, and orders of the Michigan Civil Rights Commission that may be in effect prior to the taking of bids for any individual state project.

7. The contractor shall furnish and file compliance reports within such time and upon such forms as provided by the Michigan Civil Rights Commission; said forms may also elicit information as to the practices, policies, program, and employment statistics of each subcontractor, as well as the contractor itself, and said contractor shall permit access to the contractor's books, records, and accounts by the Michigan Civil Rights Commission and/or its agent for the purposes of investigation to ascertain compliance under this contract and relevant rules, regulations, and orders of the Michigan Civil Rights Commission.

8. In the event that the Michigan Civil Rights Commission finds, after a hearing held pursuant to its rules, that a contractor has not complied with the contractual obligations under this contract, the Michigan Civil Rights Commission may, as a part of its order based upon such findings, certify said findings to the State Administrative Board of the State of Michigan, which State Administrative Board may order the cancellation of the contract found to have been violated and/or declare the contractor ineligible for future contracts with the state and its political and civil subdivisions, departments, and officers, including the governing boards of institutions of higher education, until the contractor complies with said order of the Michigan Civil Rights Commission. Notice of said declaration of future ineligibility may be given to any or all of the persons with whom the contractor is declared ineligible to contract as a contracting party in future contracts. In any case before the Michigan Civil Rights Commission in which cancellation of an existing contract is a possibility, the contracting agency shall be notified of such possible remedy and shall be given the option by the Michigan Civil Rights Commission to participate in such proceedings.

9. The contractor shall include or incorporate by reference, the provisions of the foregoing paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Michigan Civil Rights Commission; all subcontracts and purchase orders will also state that said provisions will be binding upon each subcontractor or supplier.

APPENDIX B
TITLE VI ASSURANCE

During the performance of this contract, the contractor, for itself, its assignees, and its successors in interest (hereinafter referred to as the "contractor"), agrees as follows:

1. **Compliance with Regulations**: For all federally assisted programs, the contractor shall comply with the nondiscrimination regulations set forth in 49 CFR Part 21, as may be amended from time to time (hereinafter referred to as the Regulations). Such Regulations are incorporated herein by reference and made a part of this contract.

2. **Nondiscrimination**: The contractor, with regard to the work performed under the contract, shall not discriminate on the grounds of race, color, sex, or national origin in the selection, retention, and treatment of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices, when the contractor covers a program set forth in Appendix B of the Regulations.

3. **Solicitation for Subcontracts, Including Procurements of Materials and Equipment**: All solicitations made by the contractor, either by competitive bidding or by negotiation for subcontract work, including procurement of materials or leases of equipment, must include a notification to each potential subcontractor or supplier of the contractor's obligations under the contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

4. **Information and Reports**: The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and facilities as may be determined to be pertinent by the Department or the United States Department of Transportation (USDOT) in order to ascertain compliance with such Regulations or directives. If required information concerning the contractor is in the exclusive possession of another who fails or refuses to furnish the required information, the contractor shall certify to the Department or the USDOT, as appropriate, and shall set forth the efforts that it made to obtain the information.

5. **Sanctions for Noncompliance**: In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the Department shall impose such contract sanctions as it or the USDOT may determine to be appropriate, including, but not limited to, the following:

    a. Withholding payments to the contractor until the contractor complies; and/or

    b. Canceling, terminating, or suspending the contract, in whole or in part.

6. **Incorporation of Provisions**: The contractor shall include the provisions of Sections (1) through (6) in every subcontract, including procurement of material and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the Department or the USDOT may direct as a means of enforcing such provisions, including sanctions for non-compliance, provided, however, that in the event a contractor becomes involved in or is threatened with litigation from a subcontractor or supplier as a result of such direction, the contractor may request the Department to enter into such litigation to protect the interests of the state. In addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

Revised June 2011

APPENDIX C

TO BE INCLUDED IN ALL FINANCIAL ASSISTANCE AGREEMENTS WITH LOCAL AGENCIES

Assurance that Recipients and Contractors Must Make (Excerpts from US DOT Regulation 49 CFR 26.13)

A. Each financial assistance agreement signed with a DOT operating administration (or a primary recipient) must include the following assurance:

> The recipient shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any US DOT-assisted contract or in the administration of its DBE program or the requirements of 49 CFR Part 26. The recipient shall take all necessary and reasonable steps under 49 CFR Part 26 to ensure nondiscrimination in the award and administration of US DOT-assisted contracts. The recipient's DBE program, as required by 49 CFR Part 26 and as approved by US DOT, is incorporated by reference in this agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the recipient of its failure to carry out its approved program, the department may impose sanctions as provided for under Part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. 3801 et seq.).

B. Each contract MDOT signs with a contractor (and each subcontract the prime contractor signs with a subcontractor) must include the following assurance:

> The contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of US DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

REPORT FROM THE CITY MANAGER TO CITY COUNCIL – February 27, 2023

SUBJECT: Approval of Agreement with Michigan Department of Transportation (MDOT) for the Farmington Road construction project from 12 Mile Road to 13 Mile Road.

Administrative Summary

- In February 2020, the City of Farmington Hills was awarded a Resurfacing, Restoration and Rehabilitation Grant (RRR) through the Oakland County Federal Aid Committee/Federal Highway Administration (FHWA) for the rehabilitation of Farmington Road between 12 Mile Road and 13 Mile Road.

- The design was recently completed, and bids were received through the MDOT bid letting process on February 3, 2023.

- The project will be constructed during the spring and summer of 2023.

- Grant funding is available in the amount of $1,945,529 with the City being responsible for all the non-participating costs and costs that exceed the overall grant limits.

- In-order to move forward with this grant subsidized project, MDOT requires that a formal agreement be approved by City Council. This is consistent with previous federal projects.

- The Engineering Division has reviewed the standard language of the contract and it is recommended that the City enter into this Agreement with MDOT.

RECOMMENDATION

IT IS RESOLVED, that the City Council of the City of Farmington Hills authorize the City Manager and City Clerk to enter into Agreement #22-5591 on behalf of the City with the Michigan Department of Transportation for the pavement rehabilitation of Farmington Road between 12 Mile Road and 13 Mile Road.

Support Documentation

In February 2020, the City was awarded a RRR Grant for the rehabilitation of this roadway. The grant funding for the project is included in the MDOT 2023 budget and is being provided through the Federal Highway Administration ***Surface Transportation Program (STP).*** This grant covers up to $1,945,530 of the construction costs. Construction engineering is estimated at 15% of the construction cost and is the sole responsibility of the City.

Bids were opened through the MDOT bid letting process on February 3, 2023. We anticipate that the State will award the contract by early March with construction starting shortly thereafter. The project is expected to be substantially completed in September of 2023. The scope of this project includes rehabilitation of the pavement and concrete curb as well as geometric improvements, new sidewalk on the west side of Farmington Road, and a modernized traffic signal with ADA improvements at the intersection of Farmington/Bayberry/Hearthstone.

The following illustrates the proposed MDOT agreement funding of this 2023 RRR Project:

ITEM	TOTAL ESTIMATED COST	SURFACE TRANSPORTATION PROGRAM	CITY SHARE
TOTAL	**$4,463,500**	**$1,945,529**	**$2,517,971**

The City's share of the road construction costs covered under this contract will be paid for from the City's Major Road Fund. The City costs are currently identified in the current 2022-2023 budget.

An Open House meeting will be scheduled prior to the start of construction. Individual letters will be sent to all abutting property owners with contact information including the City Engineering representative's name, phone number, and e-mail address. The letter will also offer the property owners the opportunity to sign up for a listserv that will provide timely updates of progress on this project.

Prepared by:	Mark Saksewski, P.E., Senior Traffic Engineer
Reviewed by:	James Cubera, P.E., City Engineer
Departmental Authorization by:	Karen Mondora, P.E., Director of Public Services
Approval by:	Gary Mekjian, P.E., City Manager

STP, HIC DA

Control Section	STU 63000
Job Number	210731CON
Project	23A0179
CFDA No.	20.205 (Highway Research Planning & Construction)
Contract No.	22-5591

PART I

THIS CONTRACT, consisting of PART I and PART II (Standard Agreement Provisions), is made by and between the MICHIGAN DEPARTMENT OF TRANSPORTATION, hereinafter referred to as the "DEPARTMENT"; and the CITY OF FARMINGTON HILLS, a Michigan municipal corporation, hereinafter referred to as the "REQUESTING PARTY"; for the purpose of fixing the rights and obligations of the parties in agreeing to the following improvements, in Farmington Hills, Michigan, hereinafter referred to as the "PROJECT" and estimated in detail on EXHIBIT "I", dated February 13, 2023, attached hereto and made a part hereof:

PART A – FEDERAL PARTICIPATION
Hot mix asphalt cold milling and resurfacing, widening, concrete curb and gutter, sidewalk and curb ramps along Farmington Road from 12 Mile Road to 13 Mile Road, including drainage improvements, pedestrian traffic signals, permanent signing and pavement markings; and all together with necessary related work.

PART B – NO FEDERAL PARTICIPATION
Irrigation along the limits as described in PART A; and all together with necessary related work.

WITNESSETH:

WHEREAS, pursuant to Federal law, monies have been provided for the performance of certain improvements on public roads; and

WHEREAS, the reference "FHWA" in PART I and PART II refers to the United States Department of Transportation, Federal Highway Administration; and

WHEREAS, the PROJECT, or portions of the PROJECT, at the request of the REQUESTING PARTY, are being programmed with the FHWA, for implementation with the use of Federal Funds under the following Federal program(s) or funding:

HIGHWAY INFRASTRUCTURE PROGRAM COVID
SURFACE TRANSPORTATION PROGRAM

WHEREAS, the parties hereto have reached an understanding with each other regarding the performance of the PROJECT work and desire to set forth this understanding in the form of a written contract.

NOW, THEREFORE, in consideration of the premises and of the mutual undertakings of the parties and in conformity with applicable law, it is agreed:

1. The parties hereto shall undertake and complete the PROJECT in accordance with the terms of this contract.

2. The term "PROJECT COST", as herein used, is hereby defined as the cost of the physical construction necessary for the completion of the PROJECT, including any other costs incurred by the DEPARTMENT as a result of this contract, except for construction engineering and inspection.

No charges will be made by the DEPARTMENT to the PROJECT for any inspection work or construction engineering.

The Michigan Department of Environment, Great Lakes, and Energy has informed the DEPARTMENT that it adopted new administrative rules (R 325.10101, et. seq.) which prohibit any governmental agency from connecting and/or reconnecting lead and/or galvanized service lines to existing and/or new water main. Questions regarding these administrative rules should be directed to the Michigan Department of Environment, Great Lakes, and Energy. The cost associated with replacement of any lead and/or galvanized service lines, including but not limited to contractor claims, will be the sole responsibility of the REQUESTING PARTY.

The costs incurred by the REQUESTING PARTY for preliminary engineering, construction engineering, construction materials testing, inspection, and right-of-way are excluded from the PROJECT COST as defined by this contract.

3. The DEPARTMENT is authorized by the REQUESTING PARTY to administer on behalf of the REQUESTING PARTY all phases of the PROJECT including advertising and awarding the construction contract for the PROJECT or portions of the PROJECT. Such administration shall be in accordance with PART II, Section II of this contract.

Any items of the PROJECT COST incurred by the DEPARTMENT may be charged to the PROJECT.

4. The REQUESTING PARTY, at no cost to the PROJECT or to the DEPARTMENT, shall:

A. Design or cause to be designed the plans for the PROJECT.

B. Appoint a project engineer who shall be in responsible charge of the PROJECT and ensure that the plans and specifications are followed.

C. Perform or cause to be performed the construction engineering, construction materials testing, and inspection services necessary for the completion of the PROJECT.

The REQUESTING PARTY will furnish the DEPARTMENT proposed timing sequences for trunkline signals that, if any, are being made part of the improvement. No timing adjustments shall be made by the REQUESTING PARTY at any trunkline intersection, without prior issuances by the DEPARTMENT of Standard Traffic Signal Timing Permits.

5. The PROJECT COST shall be met in accordance with the following:

PART A

Federal Surface Transportation Funds in combination with Federal Highway Infrastructure Program COVID Funds shall be applied to the eligible items of the PART A portion of the PROJECT COST. Federal Highway Infrastructure Program COVID Funds shall be applied to the eligible items of the PART A portion of the PROJECT COST up to the lesser of: (1) $196,043, or (2) an amount such that 100 percent, the normal Federal participation ratio for such funds, for the PART A portion of the PROJECT is not exceeded at the time of the award of the construction contract. Federal Surface Transportation Funds shall then be applied to the eligible items of the PART A portion of the PROJECT COST up to the lesser of: (1) $1,749,486, or (2) an amount such that 81.85 percent, the normal Federal participation ratio for such funds, for the PART A portion of the PROJECT is not exceeded at the time of the award of the construction contract. The balance of the PART A portion of the PROJECT COST, after deduction of Federal Funds, shall be charged to and paid by the REQUESTING PARTY in the manner and at the times hereinafter set forth.

PART B

The PART B portion of the PROJECT COST is not eligible for Federal participation and shall be charged to and paid 100 percent by the REQUESTING PARTY in the manner and at the times hereinafter set forth.

Any items of PROJECT COST not reimbursed by Federal Funds will be the sole responsibility of the REQUESTING PARTY.

6. No working capital deposit will be required for this PROJECT.

In order to fulfill the obligations assumed by the REQUESTING PARTY under the provisions of this contract, the REQUESTING PARTY shall make prompt payments of its share of the PROJECT COST upon receipt of progress billings from the DEPARTMENT as herein provided. All payments will be made within 30 days of receipt of billings from the DEPARTMENT. Billings to the REQUESTING PARTY will be based upon the REQUESTING PARTY'S share of the actual costs incurred less Federal Funds earned as the PROJECT progresses.

7. Upon completion of construction of the PROJECT, the REQUESTING PARTY will promptly cause to be enacted and enforced such ordinances or regulations as may be necessary to prohibit parking in the roadway right-of-way throughout the limits of the PROJECT.

8. The performance of the entire PROJECT under this contract, whether Federally funded or not, will be subject to the provisions and requirements of PART II that are applicable to a Federally funded project.

In the event of any discrepancies between PART I and PART II of this contract, the provisions of PART I shall prevail.

Buy America Requirements (23 CFR 365.410) shall apply to the PROJECT and will be adhered to, as applicable, by the parties hereto.

9. The REQUESTING PARTY certifies that it is not aware if and has no reason to believe that the property on which the work is to be performed under this agreement is a facility, as defined by the Michigan Natural Resources and Environmental Protection Act [(NREPA), PA 451, 1994, as amended 2012]; MCL 324.20101(1)(s). The REQUESTING PARTY also certifies that it is not a liable party pursuant to either Part 201 or Part 213 of NREPA, MCL 324.20126 et seq. and MCL 324.21323a et seq. The REQUESTING PARTY is a local unit of government that has acquired or will acquire property for the use of either a transportation corridor or public right-of-way and was not responsible for any activities causing a release or threat of release of any hazardous materials at or on the property. The REQUESTING PARTY is not a person who is liable for response activity costs, pursuant to MCL 324.20101 (vv) and (ww).

10. If, subsequent to execution of this contract, previously unknown hazardous substances are discovered within the PROJECT limits, which require environmental remediation pursuant to either state or federal law, the REQUESTING PARTY, in addition to reporting that fact to the Michigan Department of Environment, Great Lakes, and Energy, shall immediately notify the DEPARTMENT, both orally and in writing of such discovery. The DEPARTMENT shall consult with the REQUESTING PARTY to determine if it is willing to pay for the cost of remediation and, with the FHWA, to determine the eligibility, for reimbursement, of the remediation costs. The REQUESTING PARTY shall be charged for and shall pay all costs

associated with such remediation, including all delay costs of the contractor for the PROJECT, in the event that remediation and delay costs are not deemed eligible by the FHWA. If the REQUESTING PARTY refuses to participate in the cost of remediation, the DEPARTMENT shall terminate the PROJECT. The parties agree that any costs or damages that the DEPARTMENT incurs as a result of such termination shall be considered a PROJECT COST.

11. If federal and/or state funds administered by the DEPARTMENT are used to pay the cost of remediating any hazardous substances discovered after the execution of this contract and if there is a reasonable likelihood of recovery, the REQUESTING PARTY, in cooperation with the Michigan Department of Environment, Great Lakes, and Energy and the DEPARTMENT, shall make a diligent effort to recover such costs from all other possible entities. If recovery is made, the DEPARTMENT shall be reimbursed from such recovery for the proportionate share of the amount paid by the FHWA and/or the DEPARTMENT and the DEPARTMENT shall credit such sums to the appropriate funding source.

12. The DEPARTMENT'S sole reason for entering into this contract is to enable the REQUESTING PARTY to obtain and use funds provided by the Federal Highway Administration pursuant to Title 23 of the United States Code.

Any and all approvals of, reviews of, and recommendations regarding contracts, agreements, permits, plans, specifications, or documents, of any nature, or any inspections of work by the DEPARTMENT or its agents pursuant to the terms of this contract are done to assist the REQUESTING PARTY in meeting program guidelines in order to qualify for available funds. Such approvals, reviews, inspections and recommendations by the DEPARTMENT or its agents shall not relieve the REQUESTING PARTY and the local agencies, as applicable, of their ultimate control and shall not be construed as a warranty of their propriety or that the DEPARTMENT or its agents is assuming any liability, control or jurisdiction.

The providing of recommendations or advice by the DEPARTMENT or its agents does not relieve the REQUESTING PARTY and the local agencies, as applicable of their exclusive jurisdiction of the highway and responsibility under MCL 691.1402 et seq., as amended.

When providing approvals, reviews and recommendations under this contract, the DEPARTMENT or its agents is performing a governmental function, as that term is defined in MCL 691.1401 et seq., as amended, which is incidental to the completion of the PROJECT.

Upon completion of the PROJECT, the REQUESTING PARTY shall accept the facilities constructed as built to specifications within the contract documents. It is understood that the REQUESTING PARTY shall own the facilities and shall operate and maintain the facilities in accordance with all applicable Federal and State laws and regulations, including, but not limited to, Title II of the Americans with Disabilities Act (ADA), 42 USC 12131 et seq., and its associated regulations and standards, and DEPARTMENT Road and Bridge Standard Plans and the Standard Specifications for Construction

13. The DEPARTMENT, by executing this contract, and rendering services pursuant to this contract, has not and does not assume jurisdiction of the highway, described as the PROJECT for purposes of MCL 691.1402 et seq., as amended. Exclusive jurisdiction of such highway for the purposes of MCL 691.1402 et seq., as amended, rests with the REQUESTING PARTY and other local agencies having respective jurisdiction.

14. The REQUESTING PARTY shall approve all of the plans and specifications to be used on the PROJECT and shall be deemed to have approved all changes to the plans and specifications when put into effect. It is agreed that ultimate responsibility and control over the PROJECT rests with the REQUESTING PARTY and local agencies, as applicable.

15. The REQUESTING PARTY agrees that the costs reported to the DEPARTMENT for this contract will represent only those items that are properly chargeable in accordance with this contract. The REQUESTING PARTY also certifies that it has read the contract terms and has made itself aware of the applicable laws, regulations, and terms of this contract that apply to the reporting of costs incurred under the terms of this contract.

16. Each party to this contract will remain responsible for any and all claims arising out of its own acts and/or omissions during the performance of the contract, as provided by this contract or by law. In addition, this is not intended to increase or decrease either party's liability for or immunity from tort claims. This contract is also not intended to nor will it be interpreted as giving either party a right of indemnification, either by contract or by law, for claims arising out of the performance of this contract.

17. The parties shall promptly provide comprehensive assistance and cooperation in defending and resolving any claims brought against the DEPARTMENT by the contractor, vendors or suppliers as a result of the DEPARTMENT'S award of the construction contract for the PROJECT. Costs incurred by the DEPARTMENT in defending or resolving such claims shall be considered PROJECT COSTS.

18. The DEPARTMENT shall require the contractor who is awarded the contract for the construction of the PROJECT to provide insurance in the amounts specified and in accordance with the DEPARTMENT'S current Standard Specifications for Construction and to:

A. Maintain bodily injury and property damage insurance for the duration of the PROJECT.

B. Provide owner's protective liability insurance naming as insureds the State of Michigan, the Michigan State Transportation Commission, the DEPARTMENT and its officials, agents and employees, the REQUESTING PARTY and any other county, county road commission, or municipality in whose jurisdiction the PROJECT is located, and their employees, for the duration of the PROJECT and to provide, upon request, copies of certificates of insurance to the insureds. It is understood that the

DEPARTMENT does not assume jurisdiction of the highway described as the PROJECT as a result of being named as an insured on the owner's protective liability insurance policy.

C. Comply with the requirements of notice of cancellation and reduction of insurance set forth in the current standard specifications for construction and to provide, upon request, copies of notices and reports prepared to those insured.

19. This contract shall become binding on the parties hereto and of full force and effect upon the signing thereof by the duly authorized officials for the parties hereto and upon the adoption of the necessary resolutions approving said contract and authorizing the signatures thereto of the respective officials of the REQUESTING PARTY, a certified copy of which resolution shall be attached to this contract.

IN WITNESS WHEREOF, the parties hereto have caused this contract to be executed as written below.

CITY OF FARMINGTON HILLS

By_____
Title:

By_____
Title:

MICHIGAN DEPARTMENT
OF TRANSPORTATION

By_____
Department Director MDOT

REVIEWED
By Larry Doyle at 11:01 am, 2/27/23

February 13, 2023

EXHIBIT I

CONTROL SECTION	STU 63000
JOB NUMBER	210731CON
PROJECT	23A0179

ESTIMATED COST

CONTRACTED WORK

	PART A	PART B	TOTAL
Estimated Cost	$4,433,500	$ 30,000	$4,463,500

COST PARTICIPATION

GRAND TOTAL ESTIMATED COST	$4,433,500	$ 30,000	$4,463,500
Less Federal Funds	$1,945,529	$ 0	$1,945,529
BALANCE (REQUESTING PARTY'S SHARE)	$2,487,971	$ 30,000	$2,517,971

NO DEPOSIT

PART II

STANDARD AGREEMENT PROVISIONS

SECTION I COMPLIANCE WITH REGULATIONS AND DIRECTIVES

SECTION II PROJECT ADMINISTRATION AND SUPERVISION

SECTION III ACCOUNTING AND BILLING

SECTION IV MAINTENANCE AND OPERATION

SECTION V SPECIAL PROGRAM AND PROJECT CONDITIONS

SECTION I

COMPLIANCE WITH REGULATIONS AND DIRECTIVES

A. To qualify for eligible cost, all work shall be documented in accordance with the requirements and procedures of the DEPARTMENT.

B. All work on projects for which reimbursement with Federal funds is requested shall be performed in accordance with the requirements and guidelines set forth in the following Directives of the Federal-Aid Policy Guide (FAPG) of the FHWA, as applicable, and as referenced in pertinent sections of Title 23 and Title 49 of the Code of Federal Regulations (CFR), and all supplements and amendments thereto.

1. Engineering

   a. FAPG (6012.1): Preliminary Engineering

   b. FAPG (23 CFR 172): Administration of Engineering and Design Related Service Contracts

   c. FAPG (23 CFR 635A): Contract Procedures

   d. FAPG (49 CFR 18.22): Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments–Allowable Costs

2. Construction

   a. FAPG (23 CFR 140E): Administrative Settlement Costs-Contract Claims

   b. FAPG (23 CFR 140B): Construction Engineering Costs

   c. FAPG (23 CFR 17): Recordkeeping and Retention Requirements for Federal-Aid Highway Records of State Highway Agencies

   d. FAPG (23 CFR 635A): Contract Procedures

   e. FAPG (23 CFR 635B): Force Account Construction

   f. FAPG (23 CFR 645A): Utility Relocations, Adjustments and Reimbursement

g. FAPG (23 CFR 645B): Accommodation of Utilities (PPM 30-4.1)

h. FAPG (23 CFR 655F): Traffic Control Devices on Federal-Aid and other Streets and Highways

i. FAPG (49 CFR 18.22): Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments–Allowable Costs

3. Modification Or Construction Of Railroad Facilities

a. FAPG (23 CFR 140I): Reimbursement for Railroad Work

b. FAPG (23 CFR 646B): Railroad Highway Projects

C. In conformance with FAPG (23 CFR 630C) Project Agreements, the political subdivisions party to this contract, on those Federally funded projects which exceed a total cost of $100,000.00 stipulate the following with respect to their specific jurisdictions:

1. That any facility to be utilized in performance under or to benefit from this contract is not listed on the Environmental Protection Agency (EPA) List of Violating Facilities issued pursuant to the requirements of the Federal Clean Air Act, as amended, and the Federal Water Pollution Control Act, as amended.

2. That they each agree to comply with all of the requirements of Section 114 of the Federal Clean Air Act and Section 308 of the Federal Water Pollution Control Act, and all regulations and guidelines issued thereunder.

3. That as a condition of Federal aid pursuant to this contract they shall notify the DEPARTMENT of the receipt of any advice indicating that a facility to be utilized in performance under or to benefit from this contract is under consideration to be listed on the EPA List of Violating Facilities.

D. Ensure that the PROJECT is constructed in accordance with and incorporates all committed environmental impact mitigation measures listed in approved environmental documents unless modified or deleted by approval of the FHWA.

E. All the requirements, guidelines, conditions and restrictions noted in all other pertinent Directives and Instructional Memoranda of the FHWA will apply to this contract and will be adhered to, as applicable, by the parties hereto.

SECTION II

PROJECT ADMINISTRATION AND SUPERVISION

A. The DEPARTMENT shall provide such administrative guidance as it determines is required by the PROJECT in order to facilitate the obtaining of available federal and/or state funds.

B. The DEPARTMENT will advertise and award all contracted portions of the PROJECT work. Prior to advertising of the PROJECT for receipt of bids, the REQUESTING PARTY may delete any portion or all of the PROJECT work. After receipt of bids for the PROJECT, the REQUESTING PARTY shall have the right to reject the amount bid for the PROJECT prior to the award of the contract for the PROJECT only if such amount exceeds by ten percent (10%) the final engineer's estimate therefor. If such rejection of the bids is not received in writing within two (2) weeks after letting, the DEPARTMENT will assume concurrence. The DEPARTMENT may, upon request, readvertise the PROJECT. Should the REQUESTING PARTY so request in writing within the aforesaid two (2) week period after letting, the PROJECT will be cancelled and the DEPARTMENT will refund the unused balance of the deposit less all costs incurred by the DEPARTMENT.

C. The DEPARTMENT will perform such inspection services on PROJECT work performed by the REQUESTING PARTY with its own forces as is required to ensure compliance with the approved plans & specifications.

D. On those projects funded with Federal monies, the DEPARTMENT shall as may be required secure from the FHWA approval of plans and specifications, and such cost estimates for FHWA participation in the PROJECT COST.

E. All work in connection with the PROJECT shall be performed in conformance with the Michigan Department of Transportation Standard Specifications for Construction, and the supplemental specifications, Special Provisions and plans pertaining to the PROJECT and all materials furnished and used in the construction of the PROJECT shall conform to the aforesaid specifications. No extra work shall be performed nor changes in plans and specifications made until said work or changes are approved by the project engineer and authorized by the DEPARTMENT.

F. Should it be necessary or desirable that portions of the work covered by this contract be accomplished by a consulting firm, a railway company, or governmental agency, firm, person, or corporation, under a subcontract with the REQUESTING PARTY at PROJECT expense, such subcontracted arrangements will be covered by formal written agreement between the REQUESTING PARTY and that party.

This formal written agreement shall: include a reference to the specific prime contract to which it pertains; include provisions which clearly set forth the maximum reimbursable and the basis of payment; provide for the maintenance of accounting records in accordance with generally accepted accounting principles, which clearly document the actual cost of the services provided; provide that costs eligible for reimbursement shall be in accordance with clearly defined cost criteria such as 49 CFR Part 18, 48 CFR Part 31, 23 CFR Part 140, OMB Circular A-87, etc. as applicable; provide for access to the department or its representatives to inspect and audit all data and records related to the agreement for a minimum of three years after the department's final payment to the local unit.

All such agreements will be submitted for approval by the DEPARTMENT and, if applicable, by the FHWA prior to execution thereof, except for agreements for amounts less than $100,000 for preliminary engineering and testing services executed under and in accordance with the provisions of the "Small Purchase Procedures" FAPG (23 CFR 172), which do not require prior approval of the DEPARTMENT or the FHWA.

Any such approval by the DEPARTMENT shall in no way be construed as a warranty of the subcontractor's qualifications, financial integrity, or ability to perform the work being subcontracted.

G. The REQUESTING PARTY, at no cost to the PROJECT or the DEPARTMENT, shall make such arrangements with railway companies, utilities, etc., as may be necessary for the performance of work required for the PROJECT but for which Federal or other reimbursement will not be requested.

H. The REQUESTING PARTY, at no cost to the PROJECT, or the DEPARTMENT, shall secure, as necessary, all agreements and approvals of the PROJECT with railway companies, the Railroad Safety & Tariffs Division of the DEPARTMENT and other concerned governmental agencies other than the FHWA, and will forward same to the DEPARTMENT for such reviews and approvals as may be required.

I. No PROJECT work for which reimbursement will be requested by the REQUESTING PARTY is to be subcontracted or performed until the DEPARTMENT gives written notification that such work may commence.

J. The REQUESTING PARTY shall be responsible for the payment of all costs and expenses incurred in the performance of the work it agrees to undertake and perform.

K. The REQUESTING PARTY shall pay directly to the party performing the work all billings for the services performed on the PROJECT which are authorized by or through the REQUESTING PARTY.

L. The REQUESTING PARTY shall submit to the DEPARTMENT all paid billings for which reimbursement is desired in accordance with DEPARTMENT procedures.

M. All work by a consulting firm will be performed in compliance with the applicable provisions of 1980 PA 299, Subsection 2001, MCL 339.2001; MSA 18.425(2001), as well as in accordance with the provisions of all previously cited Directives of the FHWA.

N. The project engineer shall be subject to such administrative guidance as may be deemed necessary to ensure compliance with program requirement and, in those instances where a consultant firm is retained to provide engineering and inspection services, the personnel performing those services shall be subject to the same conditions.

O. The DEPARTMENT, in administering the PROJECT in accordance with applicable Federal and State requirements and regulations, neither assumes nor becomes liable for any obligations undertaken or arising between the REQUESTING PARTY and any other party with respect to the PROJECT.

P. In the event it is determined by the DEPARTMENT that there will be either insufficient Federal funds or insufficient time to properly administer such funds for the entire PROJECT or portions thereof, the DEPARTMENT, prior to advertising or issuing authorization for work performance, may cancel the PROJECT, or any portion thereof, and upon written notice to the parties this contract shall be void and of no effect with respect to that cancelled portion of the PROJECT. Any PROJECT deposits previously made by the parties on the cancelled portions of the PROJECT will be promptly refunded.

Q. Those projects funded with Federal monies will be subject to inspection at all times by the DEPARTMENT and the FHWA.

SECTION III

ACCOUNTING AND BILLING

A. Procedures for billing for work undertaken by the REQUESTING PARTY:

1. The REQUESTING PARTY shall establish and maintain accurate records, in accordance with generally accepted accounting principles, of all expenses incurred for which payment is sought or made under this contract, said records to be hereinafter referred to as the "RECORDS". Separate accounts shall be established and maintained for all costs incurred under this contract.

The REQUESTING PARTY shall maintain the RECORDS for at least three (3) years from the date of final payment of Federal Aid made by the DEPARTMENT under this contract. In the event of a dispute with regard to the allowable expenses or any other issue under this contract, the REQUESTING PARTY shall thereafter continue to maintain the RECORDS at least until that dispute has been finally decided and the time for all available challenges or appeals of that decision has expired.

The DEPARTMENT, or its representative, may inspect, copy, or audit the RECORDS at any reasonable time after giving reasonable notice.

If any part of the work is subcontracted, the REQUESTING PARTY shall assure compliance with the above for all subcontracted work.

In the event that an audit performed by or on behalf of the DEPARTMENT indicates an adjustment to the costs reported under this contract, or questions the allowability of an item of expense, the DEPARTMENT shall promptly submit to the REQUESTING PARTY, a Notice of Audit Results and a copy of the audit report which may supplement or modify any tentative findings verbally communicated to the REQUESTING PARTY at the completion of an audit.

Within sixty (60) days after the date of the Notice of Audit Results, the REQUESTING PARTY shall: (a) respond in writing to the responsible Bureau or the DEPARTMENT indicating whether or not it concurs with the audit report, (b) clearly explain the nature and basis for any disagreement as to a disallowed item of expense and, (c) submit to the DEPARTMENT a written explanation as to any questioned or no opinion expressed item of expense, hereinafter referred to as the "RESPONSE". The RESPONSE shall be clearly stated and provide any supporting documentation necessary to resolve any disagreement or questioned or no opinion expressed item of expense. Where the documentation is voluminous, the REQUESTING PARTY may supply appropriate excerpts and make alternate

arrangements to conveniently and reasonably make that documentation available for review by the DEPARTMENT. The RESPONSE shall refer to and apply the language of the contract. The REQUESTING PARTY agrees that failure to submit a RESPONSE within the sixty (60) day period constitutes agreement with any disallowance of an item of expense and authorizes the DEPARTMENT to finally disallow any items of questioned or no opinion expressed cost.

The DEPARTMENT shall make its decision with regard to any Notice of Audit Results and RESPONSE within one hundred twenty (120) days after the date of the Notice of Audit Results. If the DEPARTMENT determines that an overpayment has been made to the REQUESTING PARTY, the REQUESTING PARTY shall repay that amount to the DEPARTMENT or reach agreement with the DEPARTMENT on a repayment schedule within thirty (30) days after the date of an invoice from the DEPARTMENT. If the REQUESTING PARTY fails to repay the overpayment or reach agreement with the DEPARTMENT on a repayment schedule within the thirty (30) day period, the REQUESTING PARTY agrees that the DEPARTMENT shall deduct all or a portion of the overpayment from any funds then or thereafter payable by the DEPARTMENT to the REQUESTING PARTY under this contract or any other agreement, or payable to the REQUESTING PARTY under the terms of 1951 PA 51, as applicable. Interest will be assessed on any partial payments or repayment schedules based on the unpaid balance at the end of each month until the balance is paid in full. The assessment of interest will begin thirty (30) days from the date of the invoice. The rate of interest will be based on the Michigan Department of Treasury common cash funds interest earnings. The rate of interest will be reviewed annually by the DEPARTMENT and adjusted as necessary based on the Michigan Department of Treasury common cash funds interest earnings. The REQUESTING PARTY expressly consents to this withholding or offsetting of funds under those circumstances, reserving the right to file a lawsuit in the Court of Claims to contest the DEPARTMENT'S decision only as to any item of expense the disallowance of which was disputed by the REQUESTING PARTY in a timely filed RESPONSE.

The REQUESTING PARTY shall comply with the Single Audit Act of 1984, as amended, including, but not limited to, the Single Audit Amendments of 1996 (31 USC 7501-7507).

The REQUESTING PARTY shall adhere to the following requirements associated with audits of accounts and records:

a. Agencies expending a total of $500,000 or more in federal funds, from one or more funding sources in its fiscal year, shall comply with the requirements of the federal Office of Management and Budget (OMB) Circular A-133, as revised or amended.

The agency shall submit two copies of:

The Reporting Package
The Data Collection Form
The management letter to the agency, if one issued by the audit firm

The OMB Circular A-133 audit must be submitted to the address below in accordance with the time frame established in the circular, as revised or amended.

b. Agencies expending less than $500,000 in federal funds must submit a letter to the Department advising that a circular audit was not required. The letter shall indicate the applicable fiscal year, the amount of federal funds spent, the name(s) of the Department federal programs, and the CFDA grant number(s). This information must also be submitted to the address below.

c. Address: Michigan Department of Education
Accounting Service Center
Hannah Building
608 Allegan Street
Lansing, MI 48909

d. Agencies must also comply with applicable State laws and regulations relative to audit requirements.

e. Agencies shall not charge audit costs to Department's federal programs which are not in accordance with the OMB Circular A-133 requirements.

f. All agencies are subject to the federally required monitoring activities, which may include limited scope reviews and other on-site monitoring.

2. Agreed Unit Prices Work - All billings for work undertaken by the REQUESTING PARTY on an agreed unit price basis will be submitted in accordance with the Michigan Department of Transportation Standard Specifications for Construction and pertinent FAPG Directives and Guidelines of the FHWA.

3. Force Account Work and Subcontracted Work - All billings submitted to the DEPARTMENT for Federal reimbursement for items of work performed on a force account basis or by any subcontract with a consulting firm, railway company, governmental agency or other party, under the terms of this contract, shall be prepared in accordance with the provisions of the pertinent FHPM Directives and the procedures of the DEPARTMENT. Progress billings may be submitted monthly during the time work is being performed provided, however, that no bill of a lesser amount than $1,000.00 shall be submitted unless it is a final

or end of fiscal year billing. All billings shall be labeled either "Progress Bill Number _____", or "Final Billing".

4. Final billing under this contract shall be submitted in a timely manner but not later than six months after completion of the work. Billings for work submitted later than six months after completion of the work will not be paid.

5. Upon receipt of billings for reimbursement for work undertaken by the REQUESTING PARTY on projects funded with Federal monies, the DEPARTMENT will act as billing agent for the REQUESTING PARTY, consolidating said billings with those for its own force account work and presenting these consolidated billings to the FHWA for payment. Upon receipt of reimbursement from the FHWA, the DEPARTMENT will promptly forward to the REQUESTING PARTY its share of said reimbursement.

6. Upon receipt of billings for reimbursement for work undertaken by the REQUESTING PARTY on projects funded with non-Federal monies, the DEPARTMENT will promptly forward to the REQUESTING PARTY reimbursement of eligible costs.

B. Payment of Contracted and DEPARTMENT Costs:

1. As work on the PROJECT commences, the initial payments for contracted work and/or costs incurred by the DEPARTMENT will be made from the working capital deposit. Receipt of progress payments of Federal funds, and where applicable, State Critical Bridge funds, will be used to replenish the working capital deposit. The REQUESTING PARTY shall make prompt payments of its share of the contracted and/or DEPARTMENT incurred portion of the PROJECT COST upon receipt of progress billings from the DEPARTMENT. Progress billings will be based upon the REQUESTING PARTY'S share of the actual costs incurred as work on the PROJECT progresses and will be submitted, as required, until it is determined by the DEPARTMENT that there is sufficient available working capital to meet the remaining anticipated PROJECT COSTS. All progress payments will be made within thirty (30) days of receipt of billings. No monthly billing of a lesser amount than $1,000.00 will be made unless it is a final or end of fiscal year billing. Should the DEPARTMENT determine that the available working capital exceeds the remaining anticipated PROJECT COSTS, the DEPARTMENT may reimburse the REQUESTING PARTY such excess. Upon completion of the PROJECT, payment of all PROJECT COSTS, receipt of all applicable monies from the FHWA, and completion of necessary audits, the REQUESTING PARTY will be reimbursed the balance of its deposit.

2. In the event that the bid, plus contingencies, for the contracted, and/or the DEPARTMENT incurred portion of the PROJECT work exceeds the estimated cost therefor as established by this contract, the REQUESTING PARTY may be advised and billed for the additional amount of its share.

C. General Conditions:

1. The DEPARTMENT, in accordance with its procedures in existence and covering the time period involved, shall make payment for interest earned on the balance of working capital deposits for all projects on account with the DEPARTMENT. The REQUESTING PARTY in accordance with DEPARTMENT procedures in existence and covering the time period involved, shall make payment for interest owed on any deficit balance of working capital deposits for all projects on account with the DEPARTMENT. This payment or billing is processed on an annual basis corresponding to the State of Michigan fiscal year. Upon receipt of billing for interest incurred, the REQUESTING PARTY promises and shall promptly pay the DEPARTMENT said amount.

2. Pursuant to the authority granted by law, the REQUESTING PARTY hereby irrevocably pledges a sufficient amount of funds received by it from the Michigan Transportation Fund to meet its obligations as specified in PART I and PART II. If the REQUESTING PARTY shall fail to make any of its required payments when due, as specified herein, the DEPARTMENT shall immediately notify the REQUESTING PARTY and the State Treasurer of the State of Michigan or such other state officer or agency having charge and control over disbursement of the Michigan Transportation Fund, pursuant to law, of the fact of such default and the amount thereof, and, if such default is not cured by payment within ten (10) days, said State Treasurer or other state officer or agency is then authorized and directed to withhold from the first of such monies thereafter allocated by law to the REQUESTING PARTY from the Michigan Transportation Fund sufficient monies to remove the default, and to credit the REQUESTING PARTY with payment thereof, and to notify the REQUESTING PARTY in writing of such fact.

3. Upon completion of all work under this contract and final audit by the DEPARTMENT or the FHWA, the REQUESTING PARTY promises to promptly repay the DEPARTMENT for any disallowed items of costs previously disbursed by the DEPARTMENT. The REQUESTING PARTY pledges its future receipts from the Michigan Transportation Fund for repayment of all disallowed items and, upon failure to make repayment for any disallowed items within ninety (90) days of demand made by the DEPARTMENT, the DEPARTMENT is hereby authorized to withhold an equal amount from the REQUESTING PARTY'S share of any future distribution of Michigan Transportation Funds in settlement of said claim.

4. The DEPARTMENT shall maintain and keep accurate records and accounts relative to the cost of the PROJECT and upon completion of the PROJECT, payment of all items of PROJECT COST, receipt of all Federal Aid, if any, and completion of final audit by the DEPARTMENT and if applicable, by the FHWA, shall make final accounting to the REQUESTING PARTY. The final PROJECT accounting will not include interest earned or charged on working capital deposited for the PROJECT which will be accounted for separately at the close of the State of Michigan fiscal year and as set forth in Section C(1).

5. The costs of engineering and other services performed on those projects involving specific program funds and one hundred percent (100%) local funds will be apportioned to the respective portions of that project in the same ratio as the actual direct construction costs unless otherwise specified in PART I.

SECTION IV

MAINTENANCE AND OPERATION

A. Upon completion of construction of each part of the PROJECT, at no cost to the DEPARTMENT or the PROJECT, each of the parties hereto, within their respective jurisdictions, will make the following provisions for the maintenance and operation of the completed PROJECT:

1. All Projects:

Properly maintain and operate each part of the project, making ample provisions each year for the performance of such maintenance work as may be required, except as qualified in paragraph 2b of this section.

2. Projects Financed in Part with Federal Monies:

a. Sign and mark each part of the PROJECT, in accordance with the current Michigan Manual of Uniform Traffic control Devices, and will not install, or permit to be installed, any signs, signals or markings not in conformance with the standards approved by the FHWA, pursuant to 23 USC 109(d).

b. Remove, prior to completion of the PROJECT, all encroachments from the roadway right-of-way within the limits of each part of the PROJECT.

With respect to new or existing utility installations within the right-of-way of Federal Aid projects and pursuant to FAPG (23 CFR 645B): Occupancy of non-limited access right-of-way may be allowed based on consideration for traffic safety and necessary preservation of roadside space and aesthetic quality. Longitudinal occupancy of non-limited access right-of-way by private lines will require a finding of significant economic hardship, the unavailability of practicable alternatives or other extenuating circumstances.

c. Cause to be enacted, maintained and enforced, ordinances and regulations for proper traffic operations in accordance with the plans of the PROJECT.

d. Make no changes to ordinances or regulations enacted, or traffic controls installed in conjunction with the PROJECT work without prior review by the DEPARTMENT and approval of the FHWA, if required.

B. On projects for the removal of roadside obstacles, the parties, upon completion of construction of each part of the PROJECT, at no cost to the PROJECT or the DEPARTMENT, will, within their respective jurisdictions, take such action as is necessary to assure that the roadway right-of-way, cleared as the PROJECT, will be maintained free of such obstacles.

C. On projects for the construction of bikeways, the parties will enact no ordinances or regulations prohibiting the use of bicycles on the facility hereinbefore described as the PROJECT, and will amend any existing restrictive ordinances in this regard so as to allow use of this facility by bicycles. No motorized vehicles shall be permitted on such bikeways or walkways constructed as the PROJECT except those for maintenance purposes.

D. Failure of the parties hereto to fulfill their respective responsibilities as outlined herein may disqualify that party from future Federal-aid participation in projects on roads or streets for which it has maintenance responsibility. Federal Aid may be withheld until such time as deficiencies in regulations have been corrected, and the improvements constructed as the PROJECT are brought to a satisfactory condition of maintenance.

SECTION V

SPECIAL PROGRAM AND PROJECT CONDITIONS

A. Those projects for which the REQUESTING PARTY has been reimbursed with Federal monies for the acquisition of right-of-way must be under construction by the close of the twentieth (20th) fiscal year following the fiscal year in which the FHWA and the DEPARTMENT projects agreement covering that work is executed, or the REQUESTING PARTY may be required to repay to the DEPARTMENT, for forwarding to the FHWA, all monies distributed as the FHWA'S contribution to that right-of-way.

B. Those projects for which the REQUESTING PARTY has been reimbursed with Federal monies for the performance of preliminary engineering must be under construction by the close of the tenth (10th) fiscal year following the fiscal year in which the FHWA and the DEPARTMENT projects agreement covering that work is executed, or the REQUESTING PARTY may be required to repay to the DEPARTMENT, for forwarding to the FHWA, all monies distributed as the FHWA'S contribution to that preliminary engineering.

C. On those projects funded with Federal monies, the REQUESTING PARTY, at no cost to the PROJECT or the DEPARTMENT, will provide such accident information as is available and such other information as may be required under the program in order to make the proper assessment of the safety benefits derived from the work performed as the PROJECT. The REQUESTING PARTY will cooperate with the DEPARTMENT in the development of reports and such analysis as may be required and will, when requested by the DEPARTMENT, forward to the DEPARTMENT, in such form as is necessary, the required information.

D. In connection with the performance of PROJECT work under this contract the parties hereto (hereinafter in Appendix "A" referred to as the "contractor") agree to comply with the State of Michigan provisions for "Prohibition of Discrimination in State Contracts", as set forth in Appendix A, attached hereto and made a part hereof. The parties further covenant that they will comply with the Civil Rights Acts of 1964, being P.L. 88-352, 78 Stat. 241, as amended, being Title 42 U.S.C. Sections 1971, 1975a-1975d, and 2000a-2000h-6 and the Regulations of the United States Department of Transportation (49 C.F.R. Part 21) issued pursuant to said Act, including Appendix "B", attached hereto and made a part hereof, and will require similar covenants on the part of any contractor or subcontractor employed in the performance of this contract.

E. The parties will carry out the applicable requirements of the DEPARTMENT'S Disadvantaged Business Enterprise (DBE) program and 49 CFR, Part 26, including, but not limited to, those requirements set forth in Appendix C.

APPENDIX A
PROHIBITION OF DISCRIMINATION IN STATE CONTRACTS

In connection with the performance of work under this contract; the contractor agrees as follows:

1. In accordance with Public Act 453 of 1976 (Elliott-Larsen Civil Rights Act), the contractor shall not discriminate against an employee or applicant for employment with respect to hire, tenure, treatment, terms, conditions, or privileges of employment or a matter directly or indirectly related to employment because of race, color, religion, national origin, age, sex, height, weight, or marital status. A breach of this covenant will be regarded as a material breach of this contract. Further, in accordance with Public Act 220 of 1976 (Persons with Disabilities Civil Rights Act), as amended by Public Act 478 of 1980, the contractor shall not discriminate against any employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment or a matter directly or indirectly related to employment because of a disability that is unrelated to the individual's ability to perform the duties of a particular job or position. A breach of the above covenants will be regarded as a material breach of this contract.

2. The contractor hereby agrees that any and all subcontracts to this contract, whereby a portion of the work set forth in this contract is to be performed, shall contain a covenant the same as hereinabove set forth in Section 1 of this Appendix.

3. The contractor will take affirmative action to ensure that applicants for employment and employees are treated without regard to their race, color, religion, national origin, age, sex, height, weight, marital status, or any disability that is unrelated to the individual's ability to perform the duties of a particular job or position. Such action shall include, but not be limited to, the following: employment; treatment; upgrading; demotion or transfer; recruitment; advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

4. The contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, age, sex, height, weight, marital status, or disability that is unrelated to the individual's ability to perform the duties of a particular job or position.

5. The contractor or its collective bargaining representative shall send to each labor union or representative of workers with which the contractor has a collective bargaining agreement or other contract or understanding a notice advising such labor union or workers' representative of the contractor's commitments under this Appendix.

6. The contractor shall comply with all relevant published rules, regulations, directives, and orders of the Michigan Civil Rights Commission that may be in effect prior to the taking of bids for any individual state project.

7. The contractor shall furnish and file compliance reports within such time and upon such forms as provided by the Michigan Civil Rights Commission; said forms may also elicit information as to the practices, policies, program, and employment statistics of each subcontractor, as well as the contractor itself, and said contractor shall permit access to the contractor's books, records, and accounts by the Michigan Civil Rights Commission and/or its agent for the purposes of investigation to ascertain compliance under this contract and relevant rules, regulations, and orders of the Michigan Civil Rights Commission.

8. In the event that the Michigan Civil Rights Commission finds, after a hearing held pursuant to its rules, that a contractor has not complied with the contractual obligations under this contract, the Michigan Civil Rights Commission may, as a part of its order based upon such findings, certify said findings to the State Administrative Board of the State of Michigan, which State Administrative Board may order the cancellation of the contract found to have been violated and/or declare the contractor ineligible for future contracts with the state and its political and civil subdivisions, departments, and officers, including the governing boards of institutions of higher education, until the contractor complies with said order of the Michigan Civil Rights Commission. Notice of said declaration of future ineligibility may be given to any or all of the persons with whom the contractor is declared ineligible to contract as a contracting party in future contracts. In any case before the Michigan Civil Rights Commission in which cancellation of an existing contract is a possibility, the contracting agency shall be notified of such possible remedy and shall be given the option by the Michigan Civil Rights Commission to participate in such proceedings.

9. The contractor shall include or incorporate by reference, the provisions of the foregoing paragraphs (1) through (8) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Michigan Civil Rights Commission; all subcontracts and purchase orders will also state that said provisions will be binding upon each subcontractor or supplier.

APPENDIX B
TITLE VI ASSURANCE

During the performance of this contract, the contractor, for itself, its assignees, and its successors in interest (hereinafter referred to as the "contractor"), agrees as follows:

1. **Compliance with Regulations**: For all federally assisted programs, the contractor shall comply with the nondiscrimination regulations set forth in 49 CFR Part 21, as may be amended from time to time (hereinafter referred to as the Regulations). Such Regulations are incorporated herein by reference and made a part of this contract.

2. **Nondiscrimination**: The contractor, with regard to the work performed under the contract, shall not discriminate on the grounds of race, color, sex, or national origin in the selection, retention, and treatment of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices, when the contractor covers a program set forth in Appendix B of the Regulations.

3. **Solicitation for Subcontracts, Including Procurements of Materials and Equipment**: All solicitations made by the contractor, either by competitive bidding or by negotiation for subcontract work, including procurement of materials or leases of equipment, must include a notification to each potential subcontractor or supplier of the contractor's obligations under the contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

4. **Information and Reports**: The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and facilities as may be determined to be pertinent by the Department or the United States Department of Transportation (USDOT) in order to ascertain compliance with such Regulations or directives. If required information concerning the contractor is in the exclusive possession of another who fails or refuses to furnish the required information, the contractor shall certify to the Department or the USDOT, as appropriate, and shall set forth the efforts that it made to obtain the information.

5. **Sanctions for Noncompliance**: In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the Department shall impose such contract sanctions as it or the USDOT may determine to be appropriate, including, but not limited to, the following:

    a. Withholding payments to the contractor until the contractor complies; and/or

    b. Canceling, terminating, or suspending the contract, in whole or in part.

6. **Incorporation of Provisions**: The contractor shall include the provisions of Sections (1) through (6) in every subcontract, including procurement of material and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the Department or the USDOT may direct as a means of enforcing such provisions, including sanctions for non-compliance, provided, however, that in the event a contractor becomes involved in or is threatened with litigation from a subcontractor or supplier as a result of such direction, the contractor may request the Department to enter into such litigation to protect the interests of the state. In addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

Revised June 2011

APPENDIX C

TO BE INCLUDED IN ALL FINANCIAL ASSISTANCE AGREEMENTS WITH LOCAL AGENCIES

Assurance that Recipients and Contractors Must Make (Excerpts from US DOT Regulation 49 CFR 26.13)

A. Each financial assistance agreement signed with a DOT operating administration (or a primary recipient) must include the following assurance:

> The recipient shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any US DOT-assisted contract or in the administration of its DBE program or the requirements of 49 CFR Part 26. The recipient shall take all necessary and reasonable steps under 49 CFR Part 26 to ensure nondiscrimination in the award and administration of US DOT-assisted contracts. The recipient's DBE program, as required by 49 CFR Part 26 and as approved by US DOT, is incorporated by reference in this agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the recipient of its failure to carry out its approved program, the department may impose sanctions as provided for under Part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. 3801 et seq.).

B. Each contract MDOT signs with a contractor (and each subcontract the prime contractor signs with a subcontractor) must include the following assurance:

> The contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of US DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

REPORT FROM THE CITY MANAGER TO CITY COUNCIL – February 27, 2023

SUBJECT: Salvador Street (Whitlock to Hugo) Water Main Payback District, Section 34

Administrative Summary

- On December 13, 2021, City Council approved the Salvador Street Water Main Payback District subject to final costs being established upon completion of construction.
- The public water main is now in service and final costs have been determined.
- Funds were utilized from the City of Farmington Hills Water Reserve Fund to construct these improvements.
- City staff has determined that 3 properties benefit from the public water main and are being included in the payback district. This results in a total of 3 units of benefit. All benefiting properties are shown on the attached map.
- The total payback cost of the water main extension is $73,139.88 or $24,379.96 per unit. The cost per unit is below the original estimated amount of $30,125.00 per unit.
- Each benefiting property is responsible for a proportionate share of this cost as based on the number of equivalent residential units that are projected to connect from each property. Each additional connection resulting from future lot splits will have to pay its proportionate share of the full cost attributable to the original benefitted property, as required by City Ordinance.
- A payback agreement stipulates that the owners of the benefiting parcels are only required to pay for their share of the improvement costs ***if and when*** they connect to the water main and also ***prior*** to the approval of any subdivision of land or lot split as outlined in City Code Section 27.
- Should a benefiting parcel opt to pay for its proportionate share of the improvement costs within five calendar years of the approval of the final establishment of the payback district, but not including any subdivision of land or lot split, its costs may be amortized over ten years, with interest, through the City. This will be administered by the City Attorney and Finance Department.
- Staff recommends the approval of the Salvador Street Water Main Payback District Resolution and establishing the payback district and final payback amount.

RECOMMENDATION

IT IS RECOMMENDED, that City Council adopt the attached Resolution establishing the Salvador Street (Whitlock to Hugo) Water Main Payback District and the final payback costs.

Support Documentation:

On December 13, 2021, the City Council gave approval for the Salvador Street Water Main Payback District, subject to final costs being determined upon completion of construction. On January 10, 2022, City Council awarded a construction contract for the Quaker Valley Subdivision Water Main Extension and the Salvador Street Water Main and Sanitary Sewer Extension Project. This project included installation of new public water main on Salvador Street between Whitlock Street and Hugo Avenue. The connections required to loop this new water main into the existing system were located outside the limits of the payback district. These connections provide a benefit to the overall water system and any associated cost have been separated from the payback district costs.

Construction of the water main extension project is now complete, and staff has determined the final construction and engineering costs to be $145,523,88. This includes the final payback district cost of $73,139.88 and the City's water fund being responsible for $72,384.00 for the offsite water main construction.

There are 3 benefiting properties along the route of the new water main installation. Each benefiting property is responsible for a proportionate share of this cost as based on the number of equivalent residential units that are projected to connect from each property. In the event that any of the properties split or develop differently than originally estimated, units of benefit will be recalculated such that each connection resulting from the lot splits or development will have to pay its proportionate share of the full cost attributable to the original benefitted property, as required by City Ordinance. The City Assessor will follow up on the process of the paybacks prior to the approval of any subdivision of land or lot split as outlined in City Code Section 27.

Should a benefiting parcel opt to pay for its proportionate share of the improvement costs within five calendar years of the approval of the final establishment of the payback districts, but not including any subdivision of land or lot split, its costs may be amortized over ten years, with interest, through the City. Please note that the five-year time period for property owners to enter into an installment payment agreement with the City will be administered by the City Attorney and Finance Department.

Once the payback district costs are established, the City will record the resolution documents so that potential purchasers are aware of the payback amounts. City staff will notify property owners within the payback districts of the process for connection to the water main, options for payback installment payments, and the procedure for private property service line connections.

Prepared by: Natasha Sonck, Civil Engineer
Reviewed by: James Cubera, P.E., City Engineer
Reviewed by: Tammy Gushard, P.E., Senior Engineer
Departmental Authorization by: Karen Mondora, P.E., Director of Public Services
Approval by: Gary Mekjian, P.E., City Manager

CITY OF FARMINGTON HILLS
OAKLAND COUNTY, MICHIGAN

RESOLUTION R-__

AMENDED AND RESTATED RESOLUTION
FOR THE SALVADOR STREET (WHITLOCK TO HUGO) WATER MAIN PAYBACK DISTRICT

At a regular meeting of the City Council of the City of Farmington Hills, County of Oakland, State of Michigan, held in the City Council Chambers on _____, 20__ at 7:30 p.m., with those present and absent being:

PRESENT:_____

ABSENT:_____

the following preamble and resolution were offered by Councilperson _____ and supported by Councilperson _____:

WHEREAS, Article VII of Chapter 33 of the City Code (referred to in this Resolution as the "Payback Ordinances") authorizes the City to construct and establish charges for benefitted properties to contribute to the cost of water main construction; and

WHEREAS, the City of Farmington Hills has completed the extension of a water main that provides public water services to and for the benefit of the properties listed in this resolution below (such extension being referred to in this resolution as the "Water Main Extension"), and Council has been advised of the costs incurred for said Water Main Extension; and

WHEREAS, pursuant to the Payback Ordinances, City Council desires to approve the costs of construction, identify the benefited properties as being within a payback district, specify the proportionate share of the cost of construction attributable to each of the benefited properties in the payback district, declare that such benefited properties shall pay such proportionate share, address the timing for such payment, and establish a limited installment payment option for the benefitted property owners within the payback district; and

NOW, THEREFORE, BE IT RESOLVED that the costs for the Water Main Extension are approved and it is determined that the following properties benefit from the completed Water Main Extension, which properties are referred to in this resolution as the "Benefitted Properties" and are within what shall be known as the "Salvador Street (Whitlock to Hugo) Water Main Payback District"

22-23-34-327-018	32406 SALVADOR	1 Unit/$24,379.96
T1N, R9E, SEC 34 WOODLAND ACRES SUB E 83 FT OF LOTS 50 & 51 10-20-94 FR 015 & 016		
22-23-34-405-005	32340 SALVADOR	1 Unit/$24,379.96
T1N, R9E, SEC 34 KRAVE'S GRAND RIVER HEIGHTS LOT 11		
22-23-34-451-016	32341 SALVADOR	1 Unit/$24,379.96
T1N, R9E, SEC 34 KRAVE'S GRAND RIVER HEIGHTS LOT 10 ALSO ½ OF VAC POWER RD ADJ TO SAME 5-11-89 FR 014 10-11-91 CORR		

BE IT FURTHER RESOLVED that, pursuant to the Payback Ordinances, the amount listed next to each of the above-described Benefitted Properties (referred to in this resolution as the "Payback Amount") is hereby determined to be the proportionate share of the costs for the Water Main Extension attributable to each of the Benefited Properties and such Benefitted Properties shall pay the Payback Amount to the City pursuant to Section 33-201 of the City Code, as presently written or as said Code Section may be

amended from time to time in the future or as such Code Section may be rewritten in another section of the Code in the future.

BE IT FURTHER RESOLVED that, pursuant to the Payback Ordinances, each of the above-described Benefitted Properties are not entitled and shall not be permitted to connect to the City's public water main until such time as the Payback Amount established for such property has been paid to the City or as directed by the City.

BE IT FURTHER RESOLVED, that any of the Benefitted Properties that are subdivided or split into more units than identified above, then the Payback Amount listed above for such property shall be paid in accordance with the requirements of City Code Section 33-201(b), as presently written or as said Code Section may be amended from time to time in the future or as such Code Section may be rewritten in another section of the Code in the future; and

BE IT FURTHER RESOLVED, that if a benefitted property connects to the Water Main Extension within five (5) years of the date of adoption of this resolution and that property is not being subdivided or split, then such property shall have the option to pay its Payback Amount in installments that coincide with the quarterly water service billings (or other water service billing interval that may be established by the City) over a period of up to ten (10) years after the date of such connection with per annum interest to be charged at the rate of 10-year Treasury Bonds plus one (1%) percent, but such installment payment option is subject to and contingent on the benefited property owner executing an installment pay back agreement prepared by the City Attorney and recording of such agreement with the Oakland County Register of Deeds against the benefited property.

BE IT FURTHER RESOLVED, that if a property does not connect to the Water Main Extension within five (5) calendar years of the adoption of this resolution, that property must pay its Payback Amount in one lump sum at the time of connection thereafter.

AYES:
NAYS:
ABSTENTION:
ABSENT:

RESOLUTION DECLARED ADOPTED ON _____, 2015.

STATE OF MICHIGAN)
) ss.
COUNTY OF OAKLAND)

I, the undersigned, the duly qualified and acting City Clerk of the City of Farmington Hills, County of Oakland, State of Michigan, do hereby certify that the foregoing is a true and complete copy of Resolution R-__ adopted by the City Council of the City of Farmington Hills at a regular meeting held on _____, 20__, the original of which resolution is on file in my office.

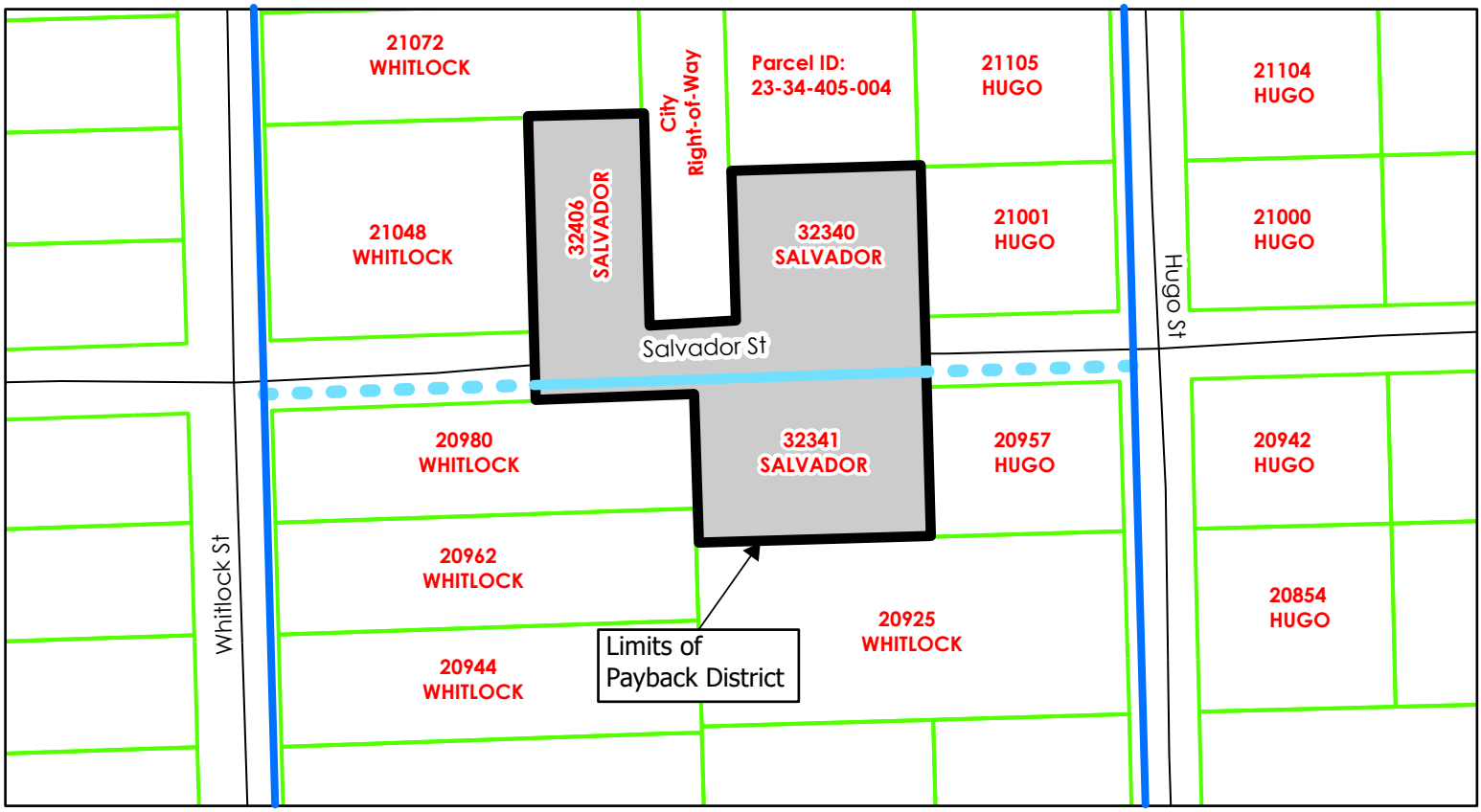
IN WITNESS WHEREOF, I have hereunto affixed my official signature this _____ day of _____, 20__.

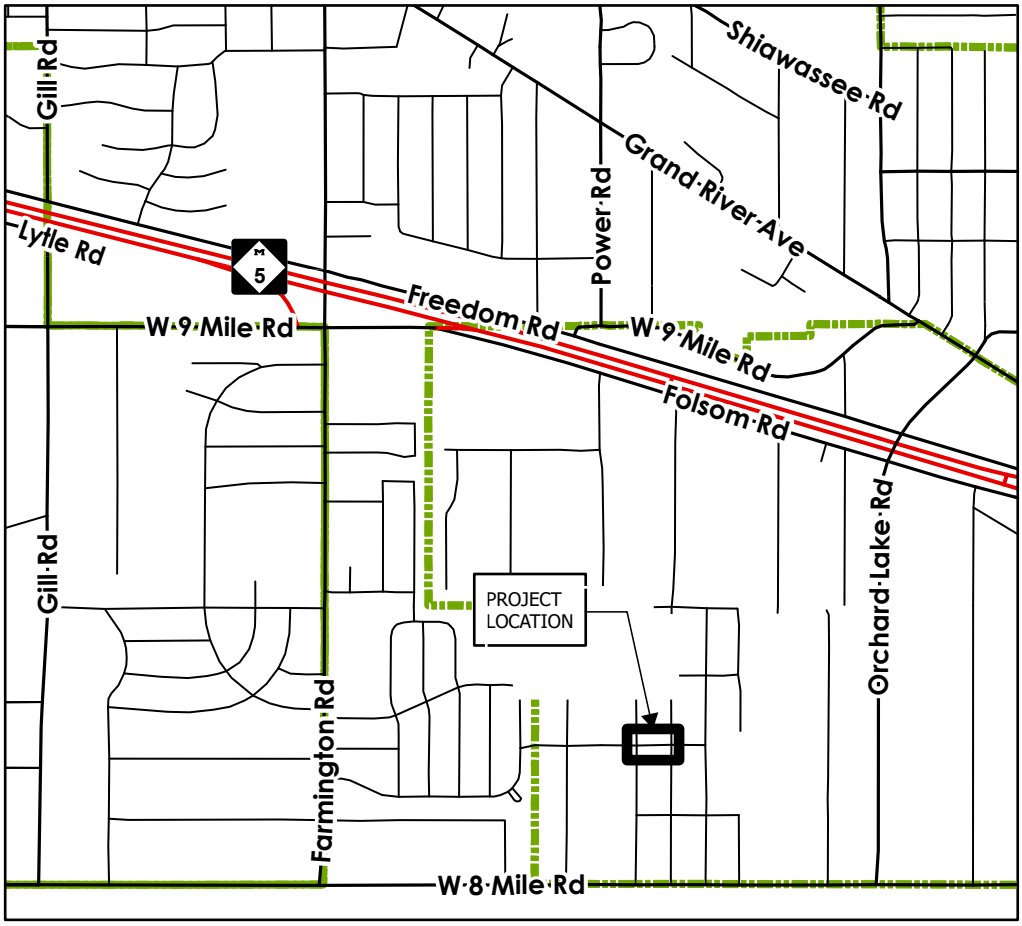
_____
Pamela Smith, City Clerk
City of Farmington Hills

When Recorded, Return to:
City of Farmington Hills
Pamela B. Smith, City Clerk
31555 W. 11 Mile Road
Farmington Hills, MI 48336

Drafted By:
City of Farmington Hills
31555 W. 11 Mile Road
Farmington Hills, MI 48336

City of Farmington Hills
Salvador Street Water Main Payback District





Legend

- Existing Water Main
- New Water Main
- City Water Fund Responsibility
- Limits of Payback District
- Current Property Lines

Department of Public Services
2/21/2023 NLS

REPORT FROM THE CITY MANAGER TO CITY COUNCIL – February 27, 2023

SUBJECT: Salvador Street (Whitlock to Hugo) Sanitary Sewer Payback District, Section 34

Administrative Summary

- On December 13, 2021, City Council approved the Salvador Street Sanitary Sewer Payback District subject to final costs being established upon completion of construction.
- The public sanitary sewer is now in service and final costs have been determined.
- Funds were utilized from the City of Farmington Hills Sewer Reserve Fund to construct these improvements.
- City staff has determined that 3 properties benefit from the public sanitary sewer and are being included in the payback district. This results in a total of 3 units of benefit. All benefiting properties are shown on the attached map.
- The total payback cost of the sanitary sewer extension is $83,980.68 or $27,993.56 per unit. The cost per unit is below the original estimated amount of $35,026.00 per unit.
- Each benefiting property is responsible for a proportionate share of this cost as based on the number of equivalent residential units that are projected to connect from each property. Each additional connection resulting from future lot splits will have to pay its proportionate share of the full cost attributable to the original benefitted property, as required by City Ordinance.
- A payback agreement stipulates that the owners of the benefiting parcels are only required to pay for their share of the improvement costs ***if and when*** they connect to the sanitary sewer and also ***prior*** to the approval of any subdivision of land or lot split as outlined in City Code Section 27.
- Should a benefiting parcel opt to pay for its proportionate share of the improvement costs within five calendar years of the approval of the final establishment of the payback district, but not including any subdivision of land or lot split, its costs may be amortized over ten years, with interest, through the City. This will be administered by the City Attorney and Finance Department.
- Staff recommends the approval of the Salvador Street Sanitary Sewer Payback District Resolution establishing the payback district and final payback amount.

RECOMMENDATION

IT IS RECOMMENDED, that City Council adopt the attached Resolution establishing the Salvador Street (Whitlock to Hugo) Sanitary Sewer Payback District and the final payback costs.

Support Documentation:

On December 13, 2021, the City Council gave approval for the Salvador Street Sanitary Sewer Payback District, subject to final costs being determined upon completion of construction. On January 10, 2022, City Council awarded a construction contract for the Quaker Valley Subdivision Water Main Extension and the Salvador Street Water Main and Sanitary Sewer Extension Project. This project included installation of new public sanitary sewer on Salvador Street between Whitlock Street and Hugo Avenue. This project included sanitary sewer installation located outside the limits of the payback district. Typically, any offsite sewer construction is the responsibility of the sewer system at large and any associated costs have been separated from the payback district costs.

Construction of the sanitary sewer extension is now complete, and staff has determined the final construction and engineering costs to be $146,974.22. This includes the final payback district cost of $83,980.68 and the City's sanitary sewer fund being responsible for $62,993.54 for the offsite sewer construction.

There are 3 benefiting properties along the route of the new sanitary sewer installation. Each benefiting property is responsible for a proportionate share of this cost as based on the number of equivalent residential units that are projected to connect from each property. In the event that any of the properties split or develop differently than originally estimated, units of benefit will be recalculated such that each connection resulting from the lot splits or development will have to pay its proportionate share of the full cost attributable to the original benefitted property, as required by City Ordinance. The City Assessor will follow up on the process of the paybacks prior to the approval of any subdivision of land or lot split as outlined in City Code Section 27.

Should a benefiting parcel opt to pay for its proportionate share of the improvement costs within five calendar years of the approval of the final establishment of the payback districts, but not including any subdivision of land or lot split, its costs may be amortized over ten years, with interest, through the City. Please note that the five-year time period for property owners to enter into an installment payment agreement with the City will be administered by the City Attorney and Finance Department.

Once the payback district costs are established, the City will record the resolution documents so that potential purchasers are aware of the payback amounts. City staff will notify property owners within the payback districts of the process for connection to the sanitary sewer, options for payback installment payments, and the procedure for private property service line connections.

Prepared by: Natasha Sonck, Civil Engineer
Reviewed by: James Cubera, P.E., City Engineer
Reviewed by: Tammy Gushard, P.E., Senior Engineer
Departmental Authorization by: Karen Mondora, P.E., Director of Public Services
Approval by: Gary Mekjian, P.E., City Manager

CITY OF FARMINGTON HILLS
OAKLAND COUNTY, MICHIGAN

RESOLUTION R-__

AMENDED AND RESTATED RESOLUTION
FOR THE SALVADOR STREET (WHITLOCK TO HUGO) SANITARY SEWER PAYBACK DISTRICT

At a regular meeting of the City Council of the City of Farmington Hills, County of Oakland, State of Michigan, held in the City Council Chambers on _____, 20__ at 7:30 p.m., with those present and absent being:

PRESENT:_____

ABSENT:_____

the following preamble and resolution were offered by Councilperson _____ and supported by Councilperson _____:

WHEREAS, Article VII of Chapter 33 of the City Code (referred to in this Resolution as the "Payback Ordinances") authorizes the City to construct and establish charges for benefitted properties to contribute to the cost of sanitary sewer construction; and

WHEREAS, the City of Farmington Hills has completed the extension of a sanitary sewer that provides public sewer services to and for the benefit of the properties listed in this resolution below (such extension being referred to in this resolution as the "Sanitary Sewer Extension"), and Council has been advised of the costs incurred for said Sanitary Sewer Extension; and

WHEREAS, pursuant to the Payback Ordinances, City Council desires to approve the costs of construction, identify the benefited properties as being within a payback district, specify the proportionate share of the cost of construction attributable to each of the benefited properties in the payback district, declare that such benefited properties shall pay such proportionate share, address the timing for such payment, and establish a limited installment payment option for the benefitted property owners within the payback district; and

NOW, THEREFORE, BE IT RESOLVED that the costs for the Sanitary Sewer Extension are approved and it is determined that the following properties benefit from the completed Sanitary Sewer Extension, which properties are referred to in this resolution as the "Benefitted Properties" and are within what shall be known as the "Salvador Street (Whitlock to Hugo) Payback District":

22-23-34-327-018	32406 SALVADOR	1 Unit/$27,993.56
T1N, R9E, SEC 34 WOODLAND ACRES SUB E 83 FT OF LOTS 50 & 51 10-20-94 FR 015 & 016		
22-23-34-405-005	32340 SALVADOR	1 Unit/$27,993.56
T1N, R9E, SEC 34 KRAVE'S GRAND RIVER HEIGHTS LOT 11		
22-23-34-451-016	32341 SALVADOR	1 Unit/$27,993.56
T1N, R9E, SEC 34 KRAVE'S GRAND RIVER HEIGHTS LOT 10 ALSO ½ OF VAC POWER RD ADJ TO SAME 5-11-89 FR 014 10-11-91 CORR		

BE IT FURTHER RESOLVED that, pursuant to the Payback Ordinances, the amount listed next to each of the above-described Benefitted Properties (referred to in this resolution as the "Payback Amount") is hereby determined to be the proportionate share of the costs for the Sanitary Sewer Extension attributable to each of the Benefited Properties and such Benefitted Properties shall pay the Payback Amount to the City pursuant to Section 33-201 of the City Code, as presently written or as said Code Section may be

amended from time to time in the future or as such Code Section may be rewritten in another section of the Code in the future.

BE IT FURTHER RESOLVED that, pursuant to the Payback Ordinances, each of the above-described Benefitted Properties are not entitled and shall not be permitted to connect to the City's public sanitary sewer until such time as the Payback Amount established for such property has been paid to the City or as directed by the City.

BE IT FURTHER RESOLVED, that any of the Benefitted Properties that are subdivided or split into more units than identified above, then the Payback Amount listed above for such property shall be paid in accordance with the requirements of City Code Section 33-201(b), as presently written or as said Code Section may be amended from time to time in the future or as such Code Section may be rewritten in another section of the Code in the future; and

BE IT FURTHER RESOLVED, that if a benefitted property connects to the Sanitary Sewer Extension within five (5) years of the date of adoption of this resolution and that property is not being subdivided or split, then such property shall have the option to pay its Payback Amount in installments that coincide with the quarterly sanitary sewer service billings (or other sanitary sewer service billing interval that may be established by the City) over a period of up to ten (10) years after the date of such connection with per annum interest to be charged at the rate of 10-year Treasury Bonds plus one (1%) percent, but such installment payment option is subject to and contingent on the benefited property owner executing an installment pay back agreement prepared by the City Attorney and recording of such agreement with the Oakland County Register of Deeds against the benefited property.

BE IT FURTHER RESOLVED, that if a property does not connect to the Sanitary Sewer Extension within five (5) calendar years of the adoption of this resolution, that property must pay its Payback Amount in one lump sum at the time of connection thereafter.

AYES:
NAYS:
ABSTENTION:
ABSENT:

RESOLUTION DECLARED ADOPTED ON _____, 2015.

STATE OF MICHIGAN)
) ss.
COUNTY OF OAKLAND)

I, the undersigned, the duly qualified and acting City Clerk of the City of Farmington Hills, County of Oakland, State of Michigan, do hereby certify that the foregoing is a true and complete copy of Resolution R-__ adopted by the City Council of the City of Farmington Hills at a regular meeting held on _____, 20__, the original of which resolution is on file in my office.

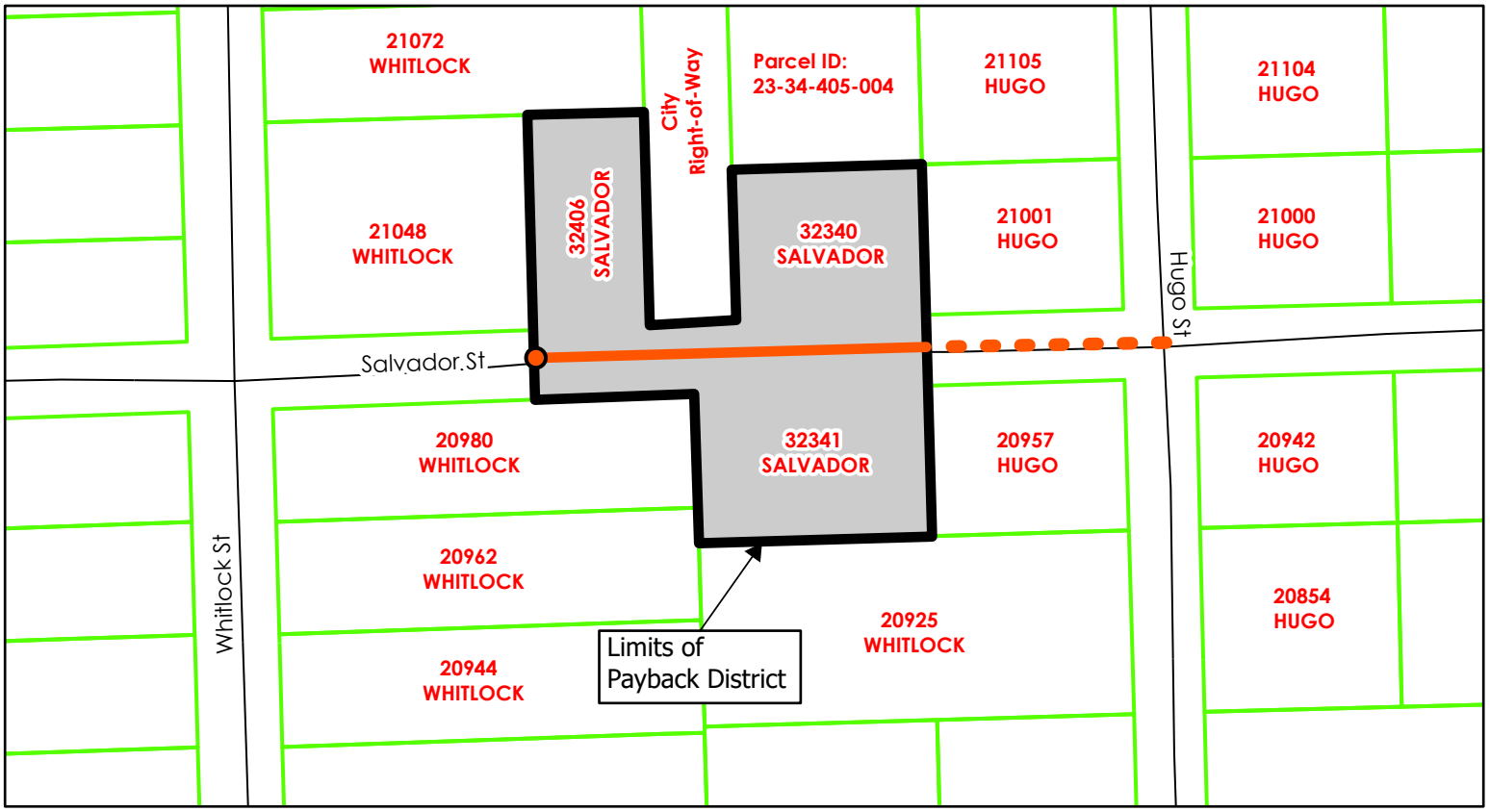
IN WITNESS WHEREOF, I have hereunto affixed my official signature this _____ day of _____, 20__.

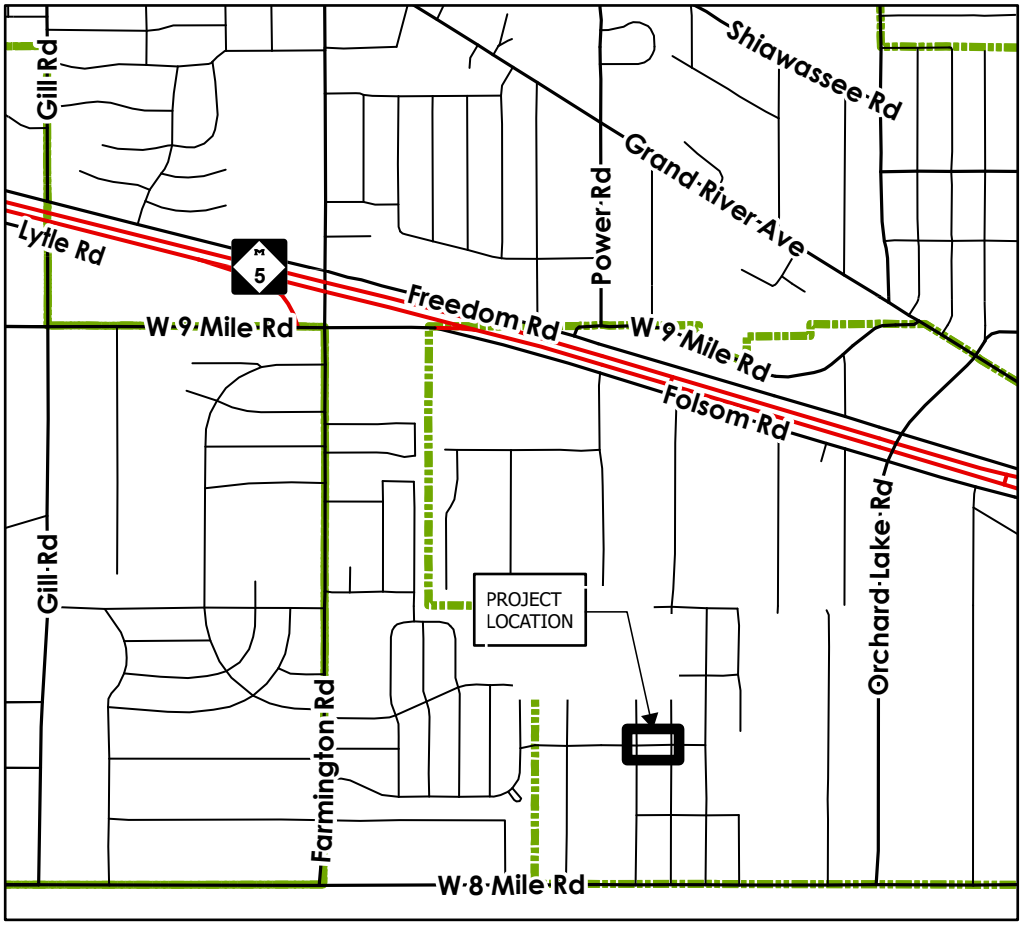
_____
Pamela Smith, City Clerk
City of Farmington Hills

When Recorded, Return to:
City of Farmington Hills
Pamela B. Smith, City Clerk
31555 W. 11 Mile Road
Farmington Hills, MI 48336

Drafted By:
City of Farmington Hills
31555 W. 11 Mile Road
Farmington Hills, MI 48336

City of Farmington Hills
Salvador Street Sanitary Sewer Payback District





Legend

- New Sanitary Sewer
- City Sewer Fund Responsibility
- Limits of Payback District
- Current Property Lines

Department of Public Services
2/21/2023 NLS

REPORT FROM THE CITY MANAGER TO CITY COUNCIL – February 27, 2023

SUBJECT: Normandy Hills Water Main Payback District, Section 21

Administrative Summary

- On January 24, 2022, City Council approved the Normandy Hills Water Main Payback District, subject to final costs being established upon completion of construction.

- The public water main is now in service and final costs have been determined.

- Funds were utilized from the City of Farmington Hills Water Reserve Fund to construct this improvement.

- City staff has determined that 78 properties benefit from the public water main and are being included in the payback district. This results in a total of 80 units of benefit. All benefiting properties are shown on the attached map.

- The total payback cost of the water main extension is $2,033,552.80 or $25,419.41 per unit. The cost per unit is below the original estimated amount of $32,607.00 per unit.

- Each benefiting property is responsible for a proportionate share of this cost as based on the number of equivalent residential units that are projected to connect from each property. Each additional connection resulting from future lot splits will have to pay its proportionate share of the full cost attributable to the original benefitted property, as required by City Ordinance.

- A payback agreement stipulates that the owners of the benefiting parcels are only required to pay for their share of the improvement costs ***if and when*** they connect to the water main and also ***prior*** to the approval of any subdivision of land or lot split as outlined in City Code Section 27.

- Should a benefiting parcel opt to pay for its proportionate share of the improvement costs within five calendar years of the approval of the final establishment of the payback district, but not including any subdivision of land or lot split, its costs may be amortized over ten years, with interest, through the City. This will be administered by the City Attorney and Finance Department.

- Staff recommends the approval of the Normandy Hills Water Main Payback District Resolution establishing the payback district and final payback amounts.

RECOMMENDATION

IT IS RECOMMENDED, that City Council adopt the attached Resolution establishing the Normandy Hills Water Main Payback District and the final payback costs.

Support Documentation

On January 24, 2022, the City Council gave approval for the Normandy Hills Water Main Payback District, subject to final costs being determined upon completion of construction. On February 13, 2022, City Council awarded a construction contract for the Normandy Hills Water Main Installation Project. This project included water main installation along Brittany Drive, Versailles Court, Thornbrook Drive,

Chantilly Court, and Dumas Court. Of the three locations that were required to loop the new water main into the existing system, two of the connections were located outside the limits of the payback district. These connections provide a benefit to the overall system. Typically, any offsite work is the responsibility of the water system at large and any associated costs have been separated from the payback district costs.

Construction of the water main extension project is now complete, and staff have determined the final construction and engineering costs to be $2,355,911.16. This includes the final payback district cost of $2,033,552.80 and City's water fund being responsible for the two connections of $322,358.36.

There are 80 benefiting properties along the route of the new water main installation. Each benefiting property is responsible for a proportionate share of this cost as based on the number of equivalent residential units that are projected to connect from each property. In the event that any of the properties split or develop differently than originally estimated, units of benefit will be recalculated such that each connection resulting from the lot splits or development will have to pay its proportionate share of the full cost attributable to the original benefitted property, as required by City Ordinance. The City Assessor will follow up on the process of the paybacks prior to the approval of any subdivision of land or lot split as outlined in City Code Section 27.

Should a benefiting parcel opt to pay for its proportionate share of the improvement costs within five calendar years of the approval of the final establishment of the payback district, but not including any subdivision of land or lot split, its costs may be amortized over ten years, with interest, through the City. Please note that the five-year time period for property owners to enter into an installment payment agreement with the City will be administered by the City Attorney and Finance Department.

Once the payback district costs are established, the City will record the resolution document so that potential purchasers are aware of the payback amounts. City staff will notify property owners within the payback district of the process for connection to the water main, options for payback installment payments, and the procedure for private property service line connections.

Prepared by: Mirandi Alexander, Civil Engineer
Reviewed by: James Cubera, P.E., City Engineer
Tammy Gushard, P.E., Senior Engineer
Departmental Authorization by: Karen Mondora, P.E., Director of Public Services
Approval by: Gary Mekjian, P.E., City Manager

CITY OF FARMINGTON HILLS
OAKLAND COUNTY, MICHIGAN

RESOLUTION R-__

AMENDED AND RESTATED RESOLUTION
FOR THE NORMANDY HILLS WATER MAIN PAYBACK DISTRICT

At a regular meeting of the City Council of the City of Farmington Hills, County of Oakland, State of Michigan, held in the City Council Chambers on _____, 20__ at 7:30 p.m., with those present and absent being:

PRESENT:_____

ABSENT:_____

the following preamble and resolution were offered by Councilperson _____ and supported by Councilperson _____:

WHEREAS, Article VII of Chapter 33 of the City Code (referred to in this Resolution as the "Payback Ordinances") authorizes the City to construct and establish charges for benefitted properties to contribute to the cost of water main construction; and

WHEREAS, the City of Farmington Hills has completed the extension of a water main that provides public water services to and for the benefit of the properties listed in this resolution below (such extension being referred to in this resolution as the "Water Main Extension"), and Council has been advised of the costs incurred for said Water Main Extension; and

WHEREAS, pursuant to the Payback Ordinances, City Council desires to approve the costs of construction, identify the benefited properties as being within a payback district, specify the proportionate share of the cost of construction attributable to each of the benefited properties in the payback district, declare that such benefited properties shall pay such proportionate share, address the timing for such payment, and establish a limited installment payment option for the benefitted property owners within the payback district; and

NOW, THEREFORE, BE IT RESOLVED that the costs for the Water Main Extension are approved and it is determined that the following properties benefit from the completed Water Main Extension, which properties are referred to in this resolution as the "Benefitted Properties" and are within what shall be known as the "Normandy Hills Water Main Payback District":

22-23-21-127-011 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 100	34385 THORNBROOK DR	1 Unit/$25,419.41
22-23-21-127-005 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 92	34601 THORNBROOK DR	1 Unit/$25,419.41
22-23-21-203-007 T1N, R9E, SEC 21 NORMANDY HILLS LOT 60	34023 BRITTANY DR	1 Unit/$25,419.41
22-23-21-203-005 T1N, R9E, SEC 21 NORMANDY HILLS LOT 62	34113 BRITTANY DR	1 Unit/$25,419.41
22-23-21-203-003 T1N, R9E, SEC 21 NORMANDY HILLS LOT 64	34215 BRITTANY DR	1 Unit/$25,419.41
22-23-21-128-009 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 116 ALSO NLY 1/2 OF VAC WLY 6 FT OF BRITTANY DR	34690 BRITTANY DR	1 Unit/$25,419.41

22-23-21-128-011	34630 BRITTANY DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 118		
22-23-21-202-001	34281 THORNBROOK DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 102		
22-23-21-127-014	34300 BRITTANY DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 THAT PART OF LOT 96 & 97 LYING SWLY OF LINE DESC AS BEG AT PT ON N LINE OF LOT 96 DIST SWLY 20 FT FROM NE LOT COR & RUNNING SELY TO PT ON S LINE OF LOT 97 DIST NELY 20 FT FROM SW LOT COR		
22-23-21-129-006	34381 BRITTANY DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 119		
22-23-21-126-006	34620 THORNBROOK DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 82		
22-23-21-201-014	33964 BRITTANY DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 75		
22-23-21-203-010	33835 BRITTANY DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 57		
22-23-21-227-008	33531 BRITTANY DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 9		
22-23-21-127-006	VACANT	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 93		
22-23-21-129-001	34685 BRITTANY DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 124 ALSO SLY 1/2 OF VAC WLY 6 FT OF BRITTANY DRIVE ADJ TO SAME		
22-23-21-201-021	33540 BRITTANY DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 51		
22-23-21-201-013	34008 BRITTANY DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 74		
22-23-21-201-020	33618 BRITTANY DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 52		
22-23-21-201-015	33934 BRITTANY DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 76		
22-23-21-128-010	34660 BRITTANY DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 117		
22-23-21-129-005	34601 BRITTANY DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 120		
22-23-21-129-007	34355 BRITTANY DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 108		
22-23-21-126-004	34660 THORNBROOK DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 84		
22-23-21-126-005	34634 THORNBROOK DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 83		

22-23-21-128-002	34690 VERSAILLES CT	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 115		
22-23-21-201-012	34038 BRITTANY DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 73		
22-23-21-126-002	34720 THORNBROOK DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 86		
22-23-21-203-021	33801 BRITTANY DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 45		
22-23-21-127-002	34695 THORNBROOK DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 89		
22-23-21-128-003	34670 VERSAILLES CT	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 114		
22-23-21-128-006	34610 VERSAILLES CT	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 111		
22-23-21-203-002	34241 BRITTANY DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 105		
22-23-21-227-009	33431 BRITTANY DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 8		
22-23-21-203-001	VACANT	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 106		
22-23-21-126-009	34690 THORNBROOK DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 85 ALSO OF 'WINDWOOD POINTE SUB' SLY 5.00 FT OF LOT 1 5/11/88 FR 003 & 2316378015		
22-23-21-201-003	VACANT	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 77		
22-23-21-127-013	34441 CHANTILLY CT	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 98		
22-23-21-127-008	34461 CHANTILLY CT	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 95		
22-23-21-126-008	34340 THORNBROOK DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 80		
22-23-21-127-003	34665 THORNBROOK DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 90		
22-23-21-128-005	34630 VERSAILLES CT	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 112		
22-23-21-129-008	34341 BRITTANY DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 PART OF LOT 107 BEG AT SW LOT COR, TH N 89-50-00 E 185 FT ALG LOT LINE,TH N 00-10-00 W TO N LOT LINE, TH NWLY ALG LOT LINE TO SE LINE OF BRITTANY DR, TH SWLY ALG SD SE LINE TO NW LOT COR, TH SELY 183.15 FT ALG LOT LINE TO BEG		
22-23-21-201-002	34284 THORNBROOK DR	1 Unit/$25,419.41
T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 78		

22-23-21-203-006 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 61	34053 BRITTANY DR	1 Unit/$25,419.41
22-23-21-203-004 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 63	34135 BRITTANY DR	1 Unit/$25,419.41
22-23-21-129-004 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 121	34625 BRITTANY DR	1 Unit/$25,419.41
22-23-21-127-010 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 101	34355 THORNBROOK DR	1 Unit/$25,419.41
22-23-21-201-019 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 53	33642 BRITTANY DR	1 Unit/$25,419.41
22-23-21-201-017 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 55	33820 BRITTANY DR	1 Unit/$25,419.41
22-23-21-127-004 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 91	VACANT	1 Unit/$25,419.41
22-23-21-202-006 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOTS 103 & 104 8-31-12 FR 002 & 003	34225 THORNBROOK DR	2 Units/$50,838.82
22-23-21-128-007 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 110	34390 BRITTANY DR	1 Unit/$25,419.41
22-23-21-226-002 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 50	33570 BERNADINE DR	1 Unit/$25,419.41
22-23-21-226-001 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 46	33641 BRITTANY DR	1 Unit/$25,419.41
22-23-21-202-005 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 THAT PART OF LOTS 96 & 97 LYING NELY OF LINE DESC AS BEG AT PT ON N LINE OF LOT 96 DIST SWLY 20 FT FROM NE LOT COR & RUNNING SELY TO PT ON S LINE OF LOT 97 DIST NELY 20 FT FROM SW LOT COR	34270 BRITTANY DR	1 Unit/$25,419.41
22-23-21-126-011 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOTS 87 & 88 ALSO OUTLOT B 5-7-18 FR 010 & 128-001	34750 THORNBROOK DR	2 Units/$50,838.82
22-23-21-128-004 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 113	34650 VERSAILLES CT	1 Unit/$25,419.41
22-23-21-128-008 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 109	34350 BRITTANY DR	1 Unit/$25,419.41
22-23-21-201-001 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 79	34316 THORNBROOK DR	1 Unit/$25,419.41
22-23-21-126-007 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 81	34368 THORNBROOK DR	1 Unit/$25,419.41
22-23-21-203-008 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 59	33983 BRITTANY DR	1 Unit/$25,419.41

22-23-21-127-007 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 94	34477 CHANTILLY CT	1 Unit/$25,419.41
22-23-21-129-002 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 123	34665 BRITTANY DR	1 Unit/$25,419.41
22-23-21-201-011 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 72	34084 BRITTANY DR	1 Unit/$25,419.41
22-23-21-203-009 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 58	33951 BRITTANY DR	1 Unit/$25,419.41
22-23-21-201-018 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 54	33730 BRITTANY DR	1 Unit/$25,419.41
22-23-21-201-016 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 56	33910 BRITTANY DR	1 Unit/$25,419.41
22-23-21-127-012 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 99	34443 CHANTILLY CT	1 Unit/$25,419.41
22-23-21-201-004 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 65	VACANT	1 Unit/$25,419.41
22-23-21-129-003 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 122	34645 BRITTANY DR	1 Unit/$25,419.41
22-23-21-201-007 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 68	25893 DUMAS CT	1 Unit/$25,419.41
22-23-21-201-008 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 69	25894 DUMAS CT	1 Unit/$25,419.41
22-23-21-201-005 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 66	25849 DUMAS CT	1 Unit/$25,419.41
22-23-21-201-010 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 71	25850 DUMAS CT	1 Unit/$25,419.41
22-23-21-201-009 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 70	25880 DUMAS CT	1 Unit/$25,419.41
22-23-21-201-006 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 LOT 67	25879 DUMAS CT	1 Unit/$25,419.41
22-23-21-129-009 T1N, R9E, SEC 21 NORMANDY HILLS NO 1 PART OF LOT 107 BEG AT PT DIST N 89-50-00 E 185 FT FROM SW LOT COR, TH N 00-10-00 W TO N LOT LINE, TH ELY, NLY & SLY ALG LOT LINE TO SE LOT COR, TH S 89-50-00 W TO BEG	34325 BRITTANY DR	1 Unit/$25,419.41

BE IT FURTHER RESOLVED that, pursuant to the Payback Ordinances, the amount listed next to each of the above-described Benefitted Properties (referred to in this resolution as the "Payback Amount") is hereby determined to be the proportionate share of the costs for the Water Main Extension attributable to each of the Benefited Properties and such Benefitted Properties shall pay the Payback Amount to the City pursuant to Section 33-201 of the City Code, as presently written or as said Code Section may be amended from time to time in the future or as such Code Section may be rewritten in another section of the Code in the future.

BE IT FURTHER RESOLVED that, pursuant to the Payback Ordinances, each of the above-described Benefitted Properties are not entitled and shall not be permitted to connect to the City's public water main until such time as the Payback Amount established for such property has been paid to the City or as directed by the City.

BE IT FURTHER RESOLVED, that any of the Benefitted Properties that are subdivided or split into more units than identified above, then the Payback Amount listed above for such property shall be paid in accordance with the requirements of City Code Section 33-201(b), as presently written or as said Code Section may be amended from time to time in the future or as such Code Section may be rewritten in another section of the Code in the future; and

BE IT FURTHER RESOLVED, that if a benefitted property connects to the Water Main Extension within five (5) years of the date of adoption of this resolution and that property is not being subdivided or split, then such property shall have the option to pay its Payback Amount in installments that coincide with the quarterly water service billings (or other water service billing interval that may be established by the City) over a period of up to ten (10) years after the date of such connection with per annum interest to be charged at the rate of 10-year Treasury Bonds plus one (1%) percent, but such installment payment option is subject to and contingent on the benefited property owner executing an installment pay back agreement prepared by the City Attorney and recording of such agreement with the Oakland County Register of Deeds against the benefited property.

BE IT FURTHER RESOLVED, that if a property does not connect to the Water Main Extension within five (5) calendar years of the adoption of this resolution, that property must pay its Payback Amount in one lump sum at the time of connection thereafter.

AYES:
NAYS:
ABSTENTION:
ABSENT:

RESOLUTION DECLARED ADOPTED ON _____, 20__.

STATE OF MICHIGAN)
) ss.
COUNTY OF OAKLAND)

I, the undersigned, the duly qualified and acting City Clerk of the City of Farmington Hills, County of Oakland, State of Michigan, do hereby certify that the foregoing is a true and complete copy of Resolution R-__ adopted by the City Council of the City of Farmington Hills at a regular meeting held on _____, 20__, the original of which resolution is on file in my office.

IN WITNESS WHEREOF, I have hereunto affixed my official signature this _____ day of _____, 20__.

_____
Pamela Smith, City Clerk
City of Farmington Hills

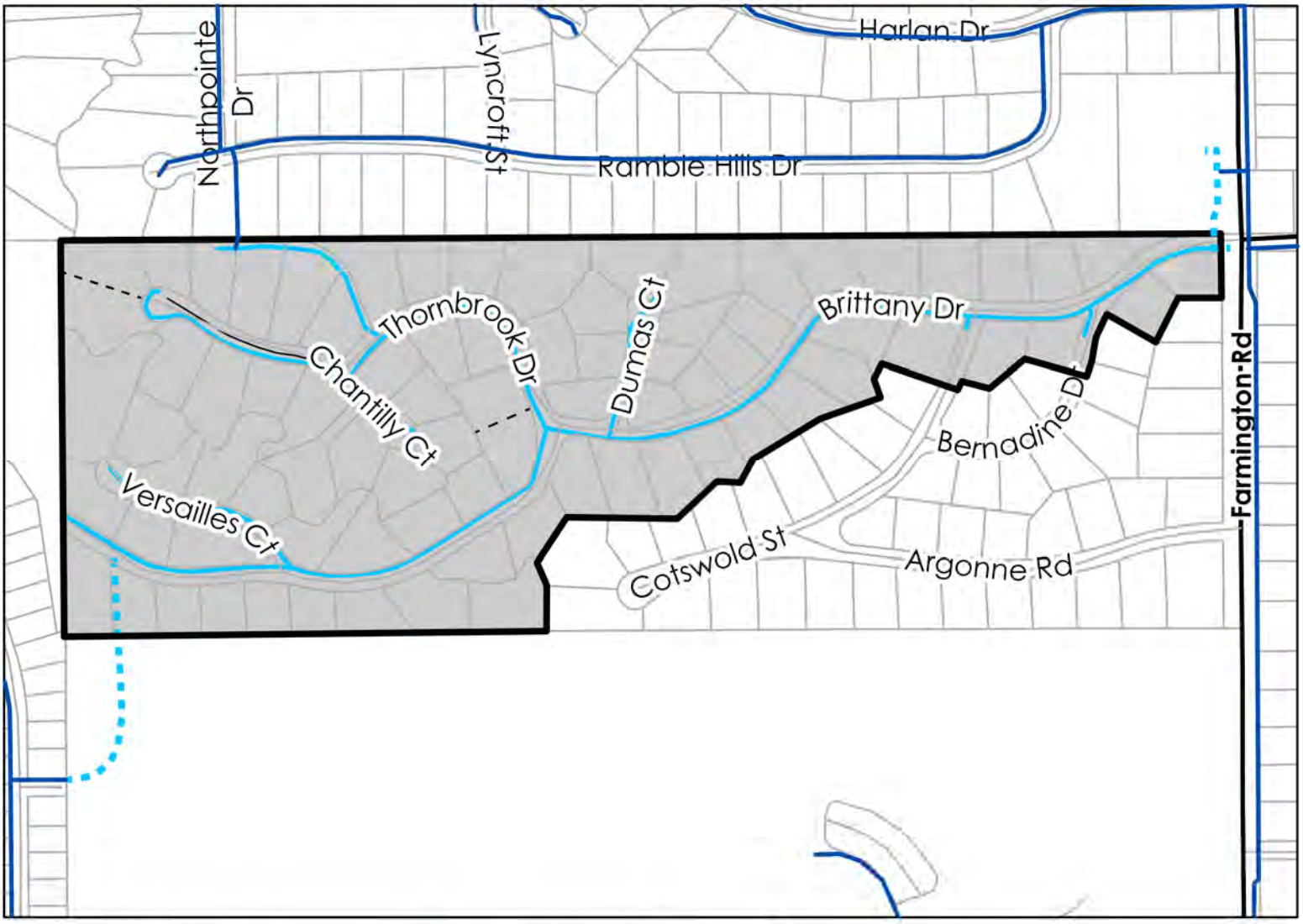
When Recorded, Return to:
City of Farmington Hills
Pamela B. Smith, City Clerk
31555 W. 11 Mile Road
Farmington Hills, MI 48336

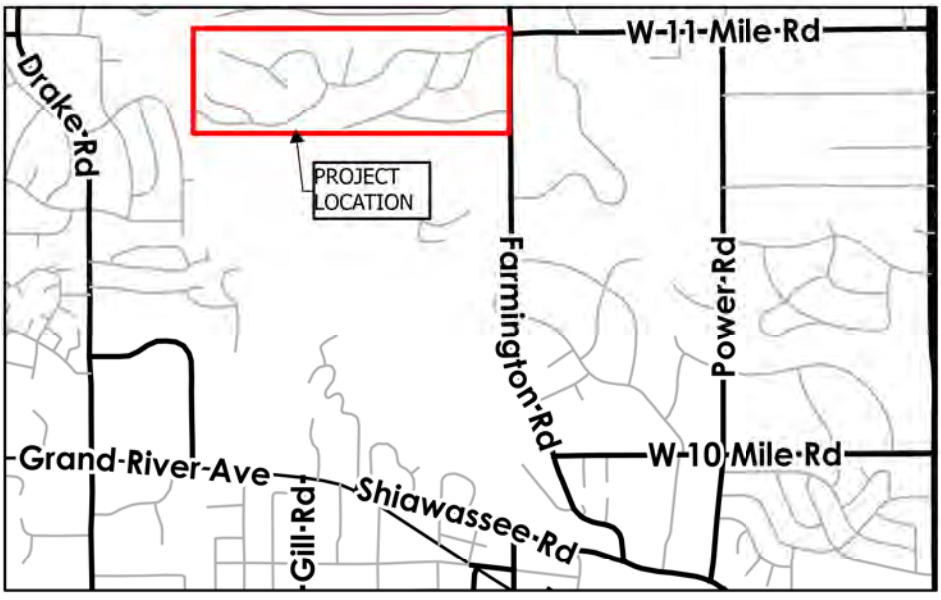
Drafted By: Mirandi Alexander
City of Farmington Hills
31555 W. 11 Mile Road
Farmington Hills, MI 48336

FARMINGTON HILLS Michigan

N

City of Farmington Hills
Normandy Hills Water Main Payback District





Legend

- Payback District Boundary
- Current Property Lines
- Existing Water Main
- New Water Main
- City-Funded Water Main
- Original Plat Lines

Department of Public Services
2/21/2023 MLA

REPORT FROM THE CITY MANAGER TO CITY COUNCIL – February 27, 2023

SUBJECT: Quaker Valley Farms Addition Water Main Payback District, Section 16

Administrative Summary

- On December 13, 2021, City Council approved the Quaker Valley Farms Addition Water Main Extension Payback District, subject to final costs being established upon completion of construction.
- The public water main is now in service and final costs have been determined.
- Funds were utilized from the City of Farmington Hills Water Reserve Fund to construct this improvement.
- City staff has determined that 45 properties benefit from the public water main and are being included in the payback district. This results in a total of 49 units of benefit. All benefiting properties are shown on the attached map.
- The total payback cost of the water main extension is $1,533,225.68 or $31,290.32 per unit. This is cost is less than 1% above the original estimated amount of $31,175.00 per unit.
- Each benefiting property is responsible for a proportionate share of this cost as based on the number of equivalent residential units that are projected to connect from each property. Each additional connection resulting from future lot splits will have to pay its proportionate share of the full cost attributable to the original benefitted property, as required by City Ordinance.
- A payback agreement stipulates that the owners of the benefiting parcels are only required to pay for their share of the improvement costs ***if and when*** they connect to the water main and also ***prior*** to the approval of any subdivision of land or lot split as outlined in City Code Section 27.
- Should a benefiting parcel opt to pay for its proportionate share of the improvement costs within five calendar years of the approval of the final establishment of the payback district, but not including any subdivision of land or lot split, its costs may be amortized over ten years, with interest, through the City. This will be administered by the City Attorney and Finance Department.
- Staff recommends the approval of the Quaker Valley Farms Addition Water Main Payback District Resolution establishing the payback district and final payback amounts.

RECOMMENDATION

IT IS RECOMMENDED, that City Council adopt the attached Resolution establishing the Quaker Valley Farms Addition Water Main Payback District and the final payback costs.

Support Documentation:

On December 13, 2021, the City Council gave approval for the Quaker Valley Farms Addition Water Main Payback District, subject to final costs being determined upon completion of construction. On January 10, 2022, City Council awarded Bricco Excavating of Oak Park a construction contract for the Quaker Valley Farms Addition Water Main Extension Project. This project included construction of new water main in the portion of the Quaker Valley Subdivision that did not have public water main at that time. One of the connections required to loop the new water main into the existing system was located outside the limits of

the payback district through a sideyard easement. This connection provided a benefit to the overall system. Typically, any offsite work is the responsibility of the water system at large and any associated costs have been separated from the payback district costs.

Construction of the water main extension project is now complete, and staff has determined the final construction and engineering costs to be a total of $1,566,639.43. This includes the final payback district cost of $1,533,225.68 and the City's water fund being responsible for $33,413.75 for the offsite water main construction.

There are 45 benefiting properties along the route of the new water main installation. Each benefiting property is responsible for a proportionate share of this cost as based on the number of equivalent residential units that are projected to connect from each property. This results in a total of 49 units of benefit. In the event that any of the properties split or develop differently than originally estimated, units of benefit will be recalculated such that each connection resulting from the lot splits or development will have to pay its proportionate share of the full cost attributable to the original benefitted property, as required by City Ordinance. The City Assessor will follow up on the process of the paybacks prior to the approval of any subdivision of land or lot split as outlined in City Code Section 27.

Should a benefiting parcel opt to pay for its proportionate share of the improvement costs within five calendar years of the approval of the final establishment of the payback district, but not including any subdivision of land or lot split, its costs may be amortized over ten years, with interest, through the City. Please note that the five-year time period for property owners to enter into an installment payment agreement with the City will be administered by the City Attorney and Finance Department.

Once the payback district costs are established, the City will record the resolution document so that potential purchasers are aware of the payback amounts. City staff will notify property owners within the payback district of the process for connection to the water main, options for payback installment payments, and the procedure for private property service line connections.

Prepared by: Tyler Sonoga, Civil Engineer
Reviewed by: James Cubera, P.E., City Engineer
Tammy Gushard, P.E., Senior Engineer
Departmental Authorization by: Karen Mondora, P.E., Director of Public Services
Approval by: Gary Mekjian, P.E., City Manager

CITY OF FARMINGTON HILLS
OAKLAND COUNTY, MICHIGAN

RESOLUTION R-__

AMENDED AND RESTATED RESOLUTION
FOR THE QUAKER VALLEY FARMS ADDITION WATER MAIN PAYBACK DISTRICT

At a regular meeting of the City Council of the City of Farmington Hills, County of Oakland, State of Michigan, held in the City Council Chambers on _____, 20__ at 7:30 p.m., with those present and absent being:

PRESENT:_____

ABSENT:_____

the following preamble and resolution were offered by Councilperson _____ and supported by Councilperson _____:

WHEREAS, Article VII of Chapter 33 of the City Code (referred to in this Resolution as the "Payback Ordinances") authorizes the City to construct and establish charges for benefitted properties to contribute to the cost of water main construction; and

WHEREAS, the City of Farmington Hills has completed the extension of a water main that provides public water services to and for the benefit of the properties listed in this resolution below (such extension being referred to in this resolution as the "Water Main Extension"), and Council has been advised of the costs incurred for said Water Main Extension; and

WHEREAS, pursuant to the Payback Ordinances, City Council desires to approve the costs of construction, identify the benefited properties as being within a payback district, specify the proportionate share of the cost of construction attributable to each of the benefited properties in the payback district, declare that such benefited properties shall pay such proportionate share, address the timing for such payment, and establish a limited installment payment option for the benefitted property owners within the payback district; and

NOW, THEREFORE, BE IT RESOLVED that the costs for the Water Main Extension are approved and it is determined that the following properties benefit from the completed Water Main Extension, which properties are referred to in this resolution as the "Benefitted Properties" and are within what shall be known as the "Quaker Valley Farms Addition Water Main Payback District":

22-23-16-403-009	33875 QUAKER VALLEY RD	4 Units/$125,161.28
T1N, R9E, SEC 16 SUPERVISOR'S PLAT OF QUAKER VALLEY FARMS LOTS 37, 38 & 39, ALSO LOT 1 OF'QUAKER VALLEY FARMS ADD'		
22-23-16-403-001	34043 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 2		
22-23-16-376-005	34055 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 3		
22-23-16-376-001	34083 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 4		
22-23-16-376-002	34111 QUAKER VALLEY LN	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 5		
22-23-16-376-003	34135 QUAKER VALLEY LN	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 6		
22-23-16-376-004	34143 QUAKER VALLEY LN	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 7		

22-23-16-326-014	34151 QUAKER VALLEY LN	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 8		
22-23-16-326-013	QUAKER VALLEY LN	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 9		
22-23-16-326-015	34173 QUAKER VALLEY RD	2 Units/$62,580.64
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOTS 10 & 11 8-31-90 FR 011 & 012		
22-23-16-326-010	34245 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 12		
22-23-16-326-009	34311 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 13		
22-23-16-326-008	34333 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 14		
22-23-16-326-007	34585 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 15		
22-23-16-326-006	34595 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 16		
22-23-16-326-005	QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 21		
22-23-16-401-014	34518 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOTS 22 & 23 5-31-01 FR 001 & 002		
22-23-16-401-003	QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 24		
22-23-16-401-004	34468 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 25		
22-23-16-401-005	34448 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 26		
22-23-16-401-006	34424 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 27		
22-23-16-401-007	34412 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 28		
22-23-16-401-008	34400 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 29		
22-23-16-328-007	34388 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 30		
22-23-16-328-006	34370 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 31		
22-23-16-328-008	34100 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOTS 32 & 33 8-20-14 FR 003 & 005		
22-23-16-328-004	34200 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 34		
22-23-16-328-001	34300 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 35		
22-23-16-328-002	34330 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 36		
22-23-16-327-004	34361 QUAKER VALLEY RD	1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 38		

22-23-16-327-005 34411 QUAKER VALLEY RD 1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 39

22-23-16-327-003 34501 QUAKER VALLEY RD 1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 40

22-23-16-327-002 34539 QUAKER VALLEY RD 1 Unit/$31,290.32
T1N, R9E, SEC 16 QUAKER VALLEY FARMS ADD LOT 41

22-23-16-401-013 34085 HUNTERS ROW 1 Unit/$31,290.32
T1N, R9E, SEC 16 SUPERVISOR'S PLAT OF QUAKER VALLEY FARMS PART OF LOT 49 DESC AS 6 BEG AT PT DIST N 80-07-26 W 68.01 FT FROM SE COR OF LOT 49 TH N 80-07-26 W 158.04 FT TO TRAV LINE, TH S 89-06-54 E 98.27 FT, TH S 66-35-46 E 60.45 FT, TH S 61-16-10 E 2.52 FT TO BEG, ALSO LOT 50 EXC BEG AT NE COR OF LOT 50 TH ALG CURVE TO RIGHT, RAD 55.15 FT, CHORD BEARS S 47-01-02 W 33.17 FT, DIST OF 33.69 FT, TH N 51-16-10 W 54.79 FT, TH S 80-07-26 E 68.01 FT TO BEG, ALSO ALL OF LOT 51 CORR 12-1-20

22-23-16-401-012 34105 HUNTERS ROW 1 Unit/$31,290.32
T1N, R9E, SEC 16 SUPERVISOR'S PLAT OF QUAKER VALLEY FARMS LOT 49 EXC BEG AT PT DIST N 80-07-26 W 68.01 FT FROM SE COR OF LOT 49 TH N 80-07-26 W 158.04 FT TO TRAV LINE, TH S 89-06-54 E 98.27 FT, TH S 66-35-46 E 60.45 FT, TH S 51-16-10 E 2.52 FT TO BEG, ALSO PART OF LOT 50 DESC AS BEG AT NE COR OF LOT 50, TH ALG CURVE TO RIGHT, RAD 55.15 FT, CHORD BEARS S 47-01-02 W 33.17 FT, DIST OF 33.69 FT, TH N 51-16-10 W 54.79 FT, TH S 80-07-26 E 68.01 FT TO BEG CORR 12-1-20

22-23-16-401-011 34135 HUNTERS ROW 1 Unit/$31,290.32
T1N, R9E, SEC 16 SUPERVISOR'S PLAT OF QUAKER VALLEY FARMS LOT 48

22-23-16-401-010 34155 HUNTERS ROW 1 Unit/$31,290.32
T1N, R9E, SEC 16 SUPERVISOR'S PLAT OF QUAKER VALLEY FARMS LOT 47

22-23-16-401-009 34185 HUNTERS ROW 1 Unit/$31,290.32
T1N, R9E, SEC 16 SUPERVISOR'S PLAT OF QUAKER VALLEY FARMS LOT 46

22-23-16-402-001 34180 HUNTERS ROW 1 Unit/$31,290.32
T1N, R9E, SEC 16 SUPERVISOR'S PLAT OF QUAKER VALLEY FARMS LOT 45

22-23-16-402-002 34150 HUNTERS ROW 1 Unit/$31,290.32
T1N, R9E, SEC 16 SUPERVISOR'S PLAT OF QUAKER VALLEY FARMS LOT 44

22-23-16-402-003 34130 HUNTERS ROW 1 Unit/$31,290.32
T1N, R9E, SEC 16 SUPERVISOR'S PLAT OF QUAKER VALLEY FARMS LOT 43

22-23-16-402-004 34100 HUNTERS ROW 1 Unit/$31,290.32
T1N, R9E, SEC 16 SUPERVISOR'S PLAT OF QUAKER VALLEY FARMS LOT 42

22-23-16-402-005 34080 HUNTERS ROW 1 Unit/$31,290.32
T1N, R9E, SEC 16 SUPERVISOR'S PLAT OF QUAKER VALLEY FARMS LOT 41

22-23-16-402-006 34080 HUNTERS ROW 1 Unit/$31,290.32
T1N, R9E, SEC 16 SUPERVISOR'S PLAT OF QUAKER VALLEY FARMS LOT 40

22-23-16-402-007 33870 QUAKER VALLEY RD 1 Unit/$31,290.32
T1N, R9E, SEC 16 SUPERVISOR'S PLAT OF QUAKER VALLEY FARMS LOT 32

BE IT FURTHER RESOLVED that, pursuant to the Payback Ordinances, the amount listed next to each of the above-described Benefitted Properties (referred to in this resolution as the “Payback Amount”) is hereby determined to be the proportionate share of the costs for the Water Main Extension attributable to each of the Benefited Properties and such Benefitted Properties shall pay the Payback Amount to the City pursuant to Section 33-201 of the City Code, as presently written or as said Code Section may be amended from time to time in the future or as such Code Section may be rewritten in another section of the Code in the future.

BE IT FURTHER RESOLVED that, pursuant to the Payback Ordinances, each of the above-described Benefitted Properties are not entitled and shall not be permitted to connect to the City’s public water main until such time as the Payback Amount established for such property has been paid to the City or as directed by the City.

BE IT FURTHER RESOLVED, that any of the Benefitted Properties that are subdivided or split into more units than identified above, then the Payback Amount listed above for such property shall be paid in

accordance with the requirements of City Code Section 33-201(b), as presently written or as said Code Section may be amended from time to time in the future or as such Code Section may be rewritten in another section of the Code in the future; and

BE IT FURTHER RESOLVED, that if a benefitted property connects to the Water Main Extension within five (5) years of the date of adoption of this resolution and that property is not being subdivided or split, then such property shall have the option to pay its Payback Amount in installments that coincide with the quarterly water service billings (or other water service billing interval that may be established by the City) over a period of up to ten (10) years after the date of such connection with per annum interest to be charged at the rate of 10-year Treasury Bonds plus one (1%) percent, but such installment payment option is subject to and contingent on the benefited property owner executing an installment payback agreement prepared by the City Attorney and recording of such agreement with the Oakland County Register of Deeds against the benefited property.

BE IT FURTHER RESOLVED, that if a property does not connect to the Water Main Extension within five (5) calendar years of the adoption of this resolution, that property must pay its Payback Amount in one lump sum at the time of connection thereafter.

AYES:
NAYS:
ABSTENTION:
ABSENT:

RESOLUTION DECLARED ADOPTED ON _____, 20__.

STATE OF MICHIGAN)
) ss.
COUNTY OF OAKLAND)

I, the undersigned, the duly qualified and acting City Clerk of the City of Farmington Hills, County of Oakland, State of Michigan, do hereby certify that the foregoing is a true and complete copy of Resolution R-__ adopted by the City Council of the City of Farmington Hills at a regular meeting held on _____, 20__, the original of which resolution is on file in my office.

IN WITNESS WHEREOF, I have hereunto affixed my official signature this _____ day of _____, 20__.

_____
Pamela Smith, City Clerk
City of Farmington Hills

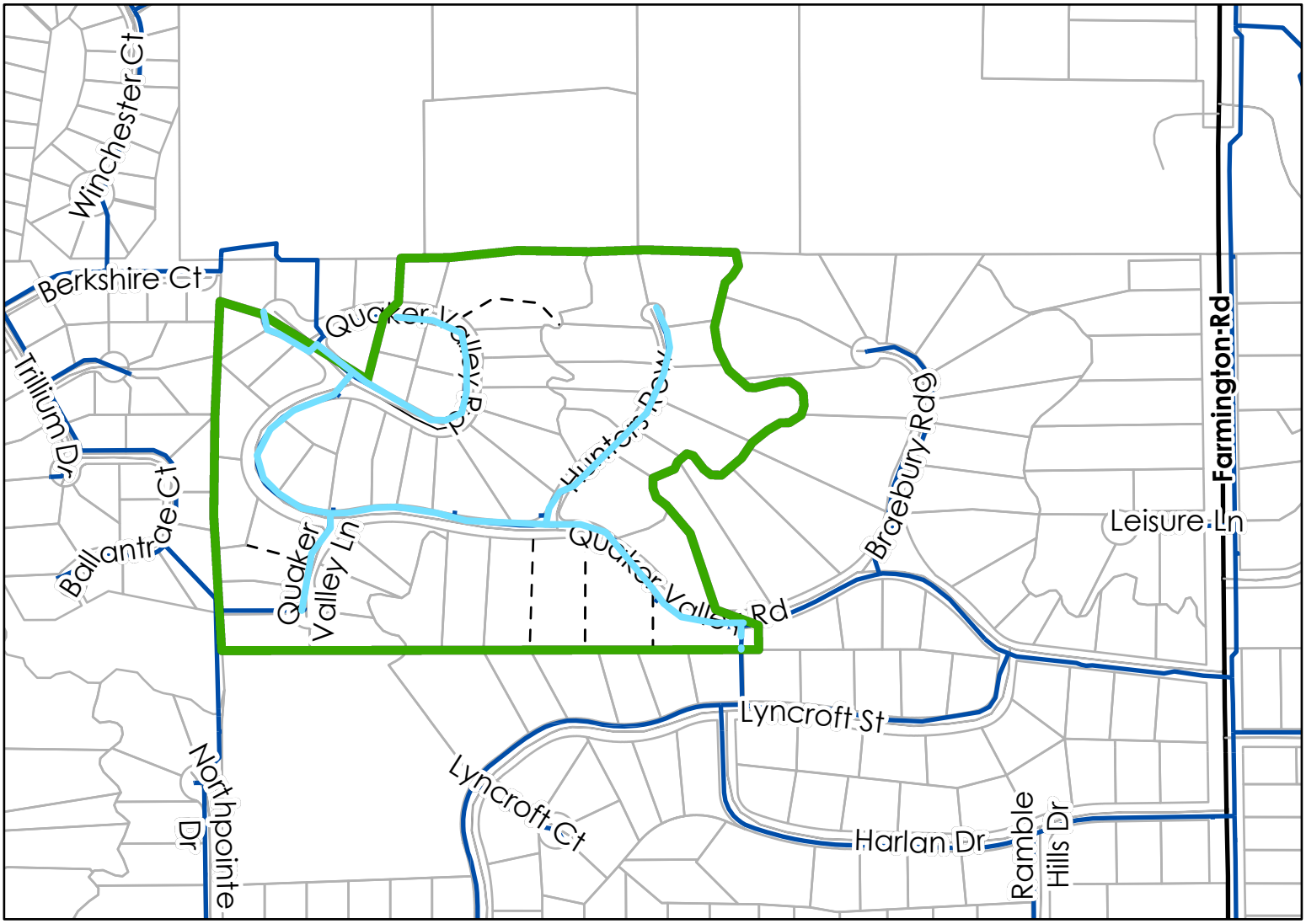
When Recorded, Return to:
City of Farmington Hills
Pamela B. Smith, City Clerk
31555 W. 11 Mile Road
Farmington Hills, MI 48336

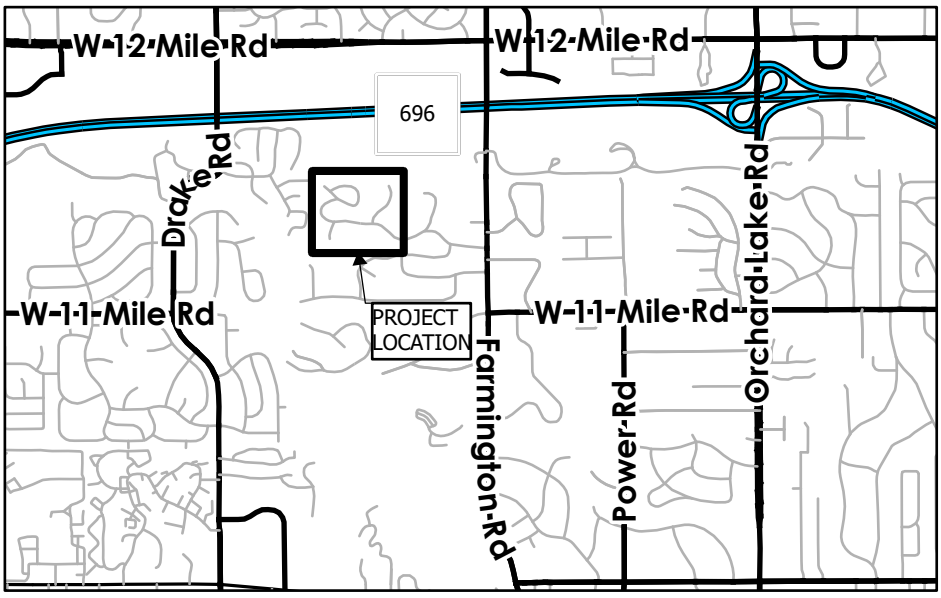
Drafted By:
City of Farmington Hills
31555 W. 11 Mile Road
Farmington Hills, MI 48336

FARMINGTON HILLS Michigan

N

City of Farmington Hills
Quaker Valley Water Main Payback District





Legend

- Payback District Boundary
- Current Property Lines
- Ex Water Main
- Original Plat Lines
- New Water Main
- City Water Fund Responsibility

Department of Public Services
2/21/2023 NLS

REPORT FROM THE CITY MANAGER TO CITY COUNCIL – February 27, 2023

SUBJECT: Consideration of Award of Contract for the Heritage Hills and Wedgwood Commons Subdivision Road Reconstruction Program, Phase III in Section 4

Administrative Summary

- In November 2018, voters approved the City Charter Amendment to Transition to a Local Road Millage. This millage replaced the City's local road special assessment process for funding local road reconstruction.

- The City currently rates the paved public roads utilizing the Pavement Surface Evaluation and Rating (PASER) system which is a widely accepted system used throughout the country. Michigan's Transportation Asset Management Council has adopted the PASER system for measuring statewide pavement conditions in Michigan.

- The City utilizes a PASER rating of 2.75 or less to qualify local roads and subdivisions for consideration of reconstruction. The paved roads within the project area have an average PASER rating of 2.57, making the project a high priority candidate. Its consideration was discussed with City Council in the fall of 2022 and it has moved forward.

- All the roads in the project area consist of concrete pavement. This proposal is for the third of a multi-phase, multi-year project which will be bid each year. Phase I was completed in 2021 and Phase II was completed in 2022. The roads will be reconstructed to local road standards with removal and replacement of the existing pavement surface, underlying base, and curb and gutter.

- The project was publicly bid and advertised on the Michigan Intergovernmental Trade Network (MITN) with bids opened on February 10, 2023.

- The lowest bidder is Fonson Company Inc., Brighton, MI in the amount of $3,762,982.56.

- Heritage Hills and Wedgwood Commons Subdivision is a large project area and includes 6.4 miles of local roads. The project is currently planned to be constructed in five (5) phases over a multi-year period. Constructing the overall project in phases should maximize the number of prospective bidders. This also ensures that each phase can be completed in a one-year construction season. Construction of Phase III is anticipated to begin in April 2023 with completion in October 2023.

RECOMMENDATION

IT IS RESOLVED, the Heritage Hills and Wedgwood Common Subdivision Road Rehabilitation Program, Phase III be awarded to Fonson Company, Incorporated in the amount of $3,762,982.56.

IT IS FURTHER RESOLVED, the City Manager and the City Clerk be authorized to execute the contract on behalf of the City.

Support Documentation

On February 10, 2023, four (4) bids were received for the above-referenced project.

Fonson Company, Inc. has successfully completed similar projects for the City of Farmington Hills and their work has been satisfactory. They completed Phase I of the Heritage Hills and Wedgwood Commons subdivision in 2021. In 2020, they were awarded the Stone Creek and Westlake Estates Phase I and Phase II Road Rehabilitation project. Phase I was completed in 2020 and Phase II was completed in 2021. In 2019, they completed the Road Rehabilitation Project for Hemlock, Medbury, Geraldine, and Omenwood, and in 2016, they completed the Independence Commons Subdivision Road Rehabilitation Project. It is our opinion they can adequately perform the work as outlined in the contract.

Our consultant, Hubbell Roth & Clark has verified their references with other communities and found them to be positive and supportive of awarding this project. It is our opinion they can adequately perform the work as outlined in the contract.

A mailing notice will be sent to all residents and property owners within the project area that will include the Open House meeting date and time, staff contact information, instructions for signing up for the project-specific Listserv, as well as "Frequently Asked Questions" for the project. The mailing will also provide a contact name and phone number for anyone requesting a one-on-one consultation to address any further questions they may have. This information will also be posted to the City's website.

To provide further outreach, a second mailing will be provided to all residents and property owners prior to construction beginning to identify the Construction Inspector assigned to the project, his or her contact information and to identify the prime contractor that was awarded the contract. Additional periodic mailings will occur for the duration of the construction.

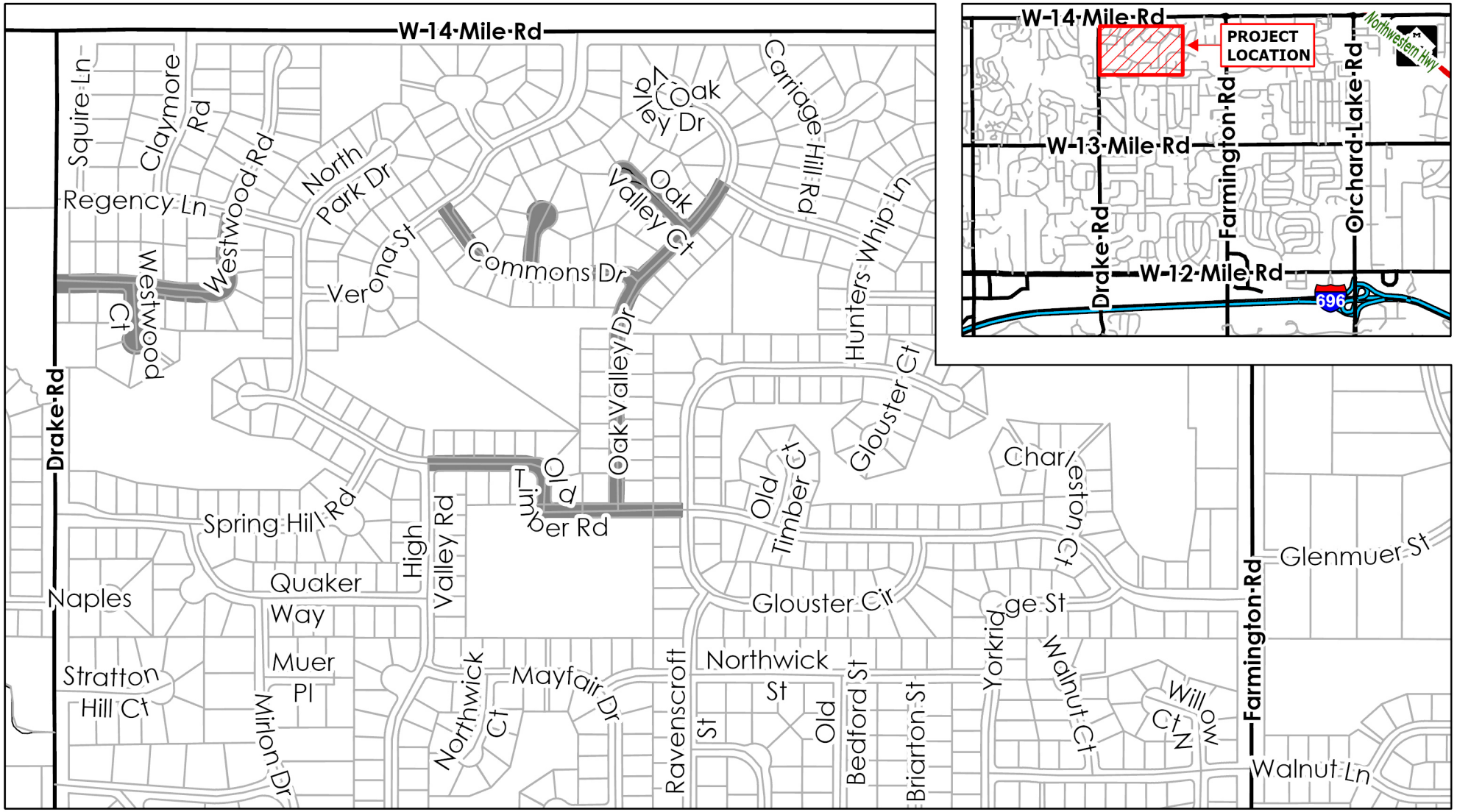
BID SUMMARY – CONCRETE

CONTRACTOR	PHASE III
F.H. Paschen, S.N. Nielson & Associates Detroit, MI	$4,955,802.61
Mark Anthony Contracting, Inc. Milford, MI	$4,244,311.05
Florence Cement Company Shelby Twp, MI	$4,013,807.92
Fonson Company, Inc. Brighton, MI	**$3,762,982.56**

Table Description: Summary of bid results for the Heritage Hills and Wedgwood Commons – Phase III Rehabilitation Program

Prepared by: Mirandi Alexander, Civil Engineer
Reviewed by: James Cubera, P.E., City Engineer
Karen Mondora, P.E., Director of Public Services
Kelly Monico, Director of Central Services
Approved by: Gary Mekjian, P.E., City Manager

City of Farmington Hills
Heritage Hills & Wedgwood Commons - Phase III



Legend

Proposed Road Rehabilitation

Department of Public Services
2/13/2023 MLA

REPORT FROM THE CITY MANAGER TO CITY COUNCIL
February 27, 2023

SUBJECT: AWARD OF BID FOR UTILITY CART WITH PLOW

ADMINISTRATIVE SUMMARY

- Sealed bids were solicited, posted on the MITN e-procurement system, and after one postponement to encourage additional bids, opened and read aloud on February 15, 2023, for the purchase of a Utility Cart with Plow and Dump Bed for the Parks & Golf Division of the Department of Special Services. Bid notification was sent to over two- hundred (200+) vendors (including forty-seven (47) vendors that hold the classification of minority owned, woman owned, veteran owned, disabled, disadvantaged or service disabled) with three (4) responding & and zero (0) "No-Bids".

- The utility cart will be utilized for plowing snow, preparing fields and seasonal cleanup at various Park and City facilities.
- The utility cart will be stored at the Founders Sports Park and moved to City Hall in the winter to allow for quick access to clear walkways during snow events.
- A two year warranty for all parts & labor was required as part of the specifications.
- Funding for the utility cart is available in the Special Services Parks Millage Fund.

BID TABULATION

Company Name	City/State	Model	Total Bid including Discharge Chute
Spartan Distributors, Inc.	Auburn Hills, MI	Toro Workman UTX (#08102) Boss V-Blade (MSC12060)	$38,991.24
King's Equipment Group Inc.	Jackson, MI	Kubota RTV X1100 CWL - H Boss V Plows 78 Inch	31,199.00
Weingartz Supply Co.	Utica, MI	Kubota RTV X1100 CWL - H Boss 6' 6 Inch V Blade	$30,270.00
Carleton Equipment Co, Inc.	Livonia, MI	Kubota RTV X1100 CWL - H Boss 6'6 Inch V Blade	$28,741.21

RECOMMENDATION

In view of the above, it is recommended that City Council authorize the City Manager to issue a purchase order for a 2023 Kubota RTV-X1100CWL-H with Boss 6'6"V-Blade to Carleton Equipment Co, Inc. in the amount of $28,741.21.

Prepared by: April Heier, Parks Maintenance Supervisor
Reviewed by: Michelle Aranowski, Senior Buyer
Reviewed by: Ellen Schnackel, Director of Special Services
Reviewed by: Kelly Monico, Director of Central Services
Approved by: Gary Mekjian, City Manager

REPORT FROM THE CITY MANAGER TO CITY COUNCIL
February 27, 2023

SUBJECT: AWARD OF PURCHASE OF TURNOUT BOOTS

ADMINISTRATIVE SUMMARY

- Proposals were accepted for turn out gear for the Fire Department. Notification was sent to seventy-two (72) vendors (including twenty-four (24) vendors that hold the classification of minority owned, woman owned, veteran owned, disabled, disadvantaged or service disabled). Proposal responses were received from four (4) vendors.

- The FHFD provides turnout boots for all firefighters. Wearing the proper boot is paramount to firefighter safety. The boots provide protection from all of the hazards that they encounter: flame, heat, cold, smoke, water, hazardous fluids, penetrating objects, falling objects, etc., but also provide comfort, support and function. Recent multiple slip & falls (that resulted in injury) necessitate the need for a higher quality of boot. Meeting the basic NFPA standard is not enough to ensure our firefighters are protected. Boots need to meet specific conditions related to the FHFD practices & terrain management needs.

- Due to the vital nature of this equipment price was only one consideration. Staff utilized a two-step process to ensure the best value boot, meeting all requirements was selected. First, vendors submitted their proposals for consideration. All responses were evaluated to ensure proposed boots met NFPA and City basic requirements. All proposed boots were deemed qualified for practical evaluation by the fire department and the City requested sample boots. One company (Conway Shield) did not provide boots to evaluate and were disqualified. Our firefighters evaluated the boots based on general fit and comfort, stair and ladder climbs, use on roof & steep grades, use on hard & soft/loose terrain, use on fresh wet ice, flexibility and insulation (waterproof & foot temp). In order to best serve the fire departments needs, the City requested a fixed pricing scheme to allow for possible extensions that would accommodate new firefighter needs.

- Utilizing this aforementioned process, City and Fire Department staff are recommending Macqueen Emergency LLC offering of the Globe Shadow with Arctic Grip as the lowest most qualified vendor. Their staff is knowledgeable regarding current industry standards and their product offering was evaluated with the highest point award for general fit and comfort, stair and ladder climbs, use on roof & steep grades, use on hard & soft/loose terrain, use on fresh wet ice, flexibility and insulation (waterproof & foot temp). The City of Farmington Hills has purchased goods and services from Macqueen Emergency, LLC, in the past, and is confident in their ability to provide quality equipment and customer service.

- Funding for turnout boots is budgeted in the 2022/2023 Capital Budget.

EVALUATION-ATTACHED

RECOMMENDATION

In view of the above, it is recommended that City Council authorize the City Manager to approve an initial purchase order for turnout boots to Macqueen Emergency, LLC. for 135 at $568 per pair, in a total amount of $76,680 and also authorize one or more administration-approved extension not to exceed a total of four (4) additional one year extensions under the same terms and conditions upon mutual consent by the City and vendor.

Prepared by: Jason Olszewski, Deputy Fire Chief
Reviewed by: Michelle Aranowski, Senior Buyer
Reviewed by: Kelly Monico, Director of Central Services
Reviewed by: Jon Unruh, Fire Chief
Approved by: Gary Mekjian, City Manager

CITY OF FARMINGTON HILLS
PROPOSAL TABULATION
RFP-FH-22-23-2372
Fire Fighter Protective Gear - Boots
Opened 12/21/2022

Recommended for Award

ITEM	Macqueen Emergency, LLC Dalafield, WI					Macqueen Emergency, LLC Dalafield, WI					Conway Shield New Berlin, WI					Phoenix Safety Outfitters Freeland, MI			
	UNIT PRICE 1-25	UNIT PRICE 26-50	UNIT PRICE 51-75	UNIT PRICE 76-100	UNIT PRICE 100+	UNIT PRICE 1-25	UNIT PRICE 26-50	UNIT PRICE 51-75	UNIT PRICE 76-100	UNIT PRICE 100+	UNIT PRICE 1-25	UNIT PRICE 26-50	UNIT PRICE 51-75	UNIT PRICE 76-100	UNIT PRICE 100+	UNIT PRICE 1-25	UNIT PRICE 26-50	UNIT PRICE 51-75	UNIT PRICE 76-100
FIREFIGHTER BOOTS	$607.00	$607.00	$607.00	$607.00	$607.00	$568.00	$568.00	$568.00	$568.00	$568.00	$410.00	$410.00	$410.00	$410.00	$410.00	$394.59	$394.59	$394.59	$394.59
MFG NAME & MODEL	*Globe Superalite*					*Globe Shadow with Arctic Grip*					*Lion KnockDown Elite*					*Haix 507502 Fire Eagle Air*			
% price increase per year beginning at year two (2) under the same terms and conditions	Due to the Volatility of the market, vendor is proposing a percentage off list price 32% off vs. a price escalator					Due to the Volatility of the market, vendor is proposing a percentage off list price 32% off vs. a price escalator					8%					5%			
Extend to MITN Cooperative	No					No					Yes					Yes			
Product Sample Evaluation - Average Score - based on general fit and comfort, stair and ladder climbs, use on roof & steep grades, use on hard & soft/loose terrain, use on fresh wet ice, flexibility and insulation (waterproof & foot temp)	**25.00**					**31.50**					Disqualified. Boots for evaluation were ot provided.					**20.50**			

ITEM	Conway Shield New Berlin, WI					Phoenix Safety Outfitters Freeland, MI					Allied Fire Sales and Service Spring Lake, MI				
	UNIT PRICE 100+	UNIT PRICE 26-50	UNIT PRICE 51-75	UNIT PRICE 76-100	UNIT PRICE 100+	UNIT PRICE 100+	UNIT PRICE 26-50	UNIT PRICE 51-75	UNIT PRICE 76-100	UNIT PRICE 100+	UNIT PRICE 1-25	UNIT PRICE 26-50	UNIT PRICE 51-75	UNIT PRICE 76-100	UNIT PRICE 100+
FIREFIGHTER BOOTS	$334.00	$334.00	$334.00	$334.00	$334.00	$330.49	$330.49	$330.49	$330.49	$330.49	$320.00	$318.00	$311.00	$300.00	$300.00
MFG NAME & MODEL	*Lion Thorogood QR14 804-6369*					*Lion Thorogood QR14 804-6369*					*Black Diamond Leather 14" boots*				
% price increase per year beginning at year two (2) under the same terms and conditions	8%					5%					10%				
Extend to MITN Cooperative	Yes					Yes					Yes				
Product Sample Evaluation - Average high Score - based on general fit and comfort, stair and ladder climbs, use on roof & steep grades, use on hard & soft/loose terrain, use on fresh wet ice, flexibility and insulation (waterproof & foot temp)	**26.00**					**26.00**					**25.00**				

Bid notification was sent to 78 vendors. *Phoenix Safety Outfitters proposal was received on 12/20/2022 @ 3:51 p.m., however, it was misfiled on our end and missed in the first proposal posting.
Matching Colors indicate the same boot offered by different vendors

REPORT FROM THE CITY MANAGER TO CITY COUNCIL – February 27, 2023

SUBJECT: Consideration of Award of Contract for the Farmington Freeway Industrial Park Phase 2 – Research Drive & Freeway Park Drive Reconstruction Project in Section 30

Administrative Summary

- This is a multiyear phased project and includes the reconstruction of the roads in the industrial park, south of 10 Mile Road and west of Halsted Road. The first phase, Commerce Drive, was completed last year.

- This second phase which is now being considered includes Research Drive and Freeway Park Drive.

- The City currently rates the paved public roads utilizing the Pavement Surface Evaluation and Rating (PASER) system which is a widely accepted system used throughout the country. Michigan's Transportation Asset Management Council has adopted the PASER system for measuring statewide pavement conditions in Michigan. This not only includes the residential streets in the City but also major roads and industrial roads.

- The paved roads within the project area have PASER ratings ranging from 2.0 to 4.0, making the project a strong candidate for reconstruction. It should be noted that there are some localized areas with higher PASER ratings due to temporary pavement repairs.

- The road will be rehabilitated to industrial road standards with removal of the existing concrete surface and underlying base. Replacement will consist of a new thicker concrete surface on an improved aggregate base. New curb and gutter and underdrain will also be constructed with this project. In addition, there will be some storm sewer improvements.

- This project was publicly bid and advertised on the Michigan Intergovernmental Trade Network (MITN) with bids opened on February 16, 2023.

- The lowest bidder who has demonstrated the ability to complete the work is Hard Rock Concrete, Inc. Their bid was in the amount of $3,977,338.61.

- Construction is anticipated to begin in April 2023, weather permitting, with completion by September 2023.

RECOMMENDATION

IT IS RESOLVED, the Farmington Freeway Industrial Park Phase 2 – Research Drive & Freeway Park Drive Reconstruction Project be awarded to the lowest competent bidder, Hard Rock Concrete, Inc. in the amount of $3,977,338.61, and

IT IS FURTHER RESOLVED, the City Manager and the City Clerk be authorized to execute the contract on behalf of the City.

Support Documentation

The City of Farmington Hills has budgeted for the rehabilitation of Research Drive & Freeway Park Drive. The bid is within the budgeted amount.

This project will maintain the existing lane configurations. As stated above, an industrial strength pavement on a thick aggregate base will replace the existing roadway with all new curb and gutter and underdrain. Storm sewer improvements will also be installed.

On February 16, 2023, five (5) bids were received for the above-referenced project (see Bid Summary). The low bid, provided by Hard Rock Concrete, Inc., is competitive with current prices in today's market.

Hard Rock Concrete, Inc. has successfully completed similar projects for the City of Livonia, City of Woodhaven, and the City of Garden City. Our consultant, Hubbell Roth & Clark has verified their references with other communities and found them to be positive and supportive of awarding this project. It is our opinion they can adequately perform the work as outlined in the contract.

A mailing notice will be sent to all businesses and property owners within the project area that will include the Open House meeting date and time, staff contact information, instructions for signing up for the project-specific Listserv, as well as "Frequently Asked Questions" for the project. The mailing will also provide a contact name and phone number for anyone requesting a one-on-one consultation to address any further questions they may have. This information will also be posted to the City's website.

To provide further outreach, a second mailing will be provided to all businesses and property owners prior to construction beginning to identify the Construction Inspector assigned to the project, his or her contact information, and to identify the prime contractor that was awarded the contract. Additional periodic mailings and/or hand delivered notices will be provided to businesses for the duration of the project.

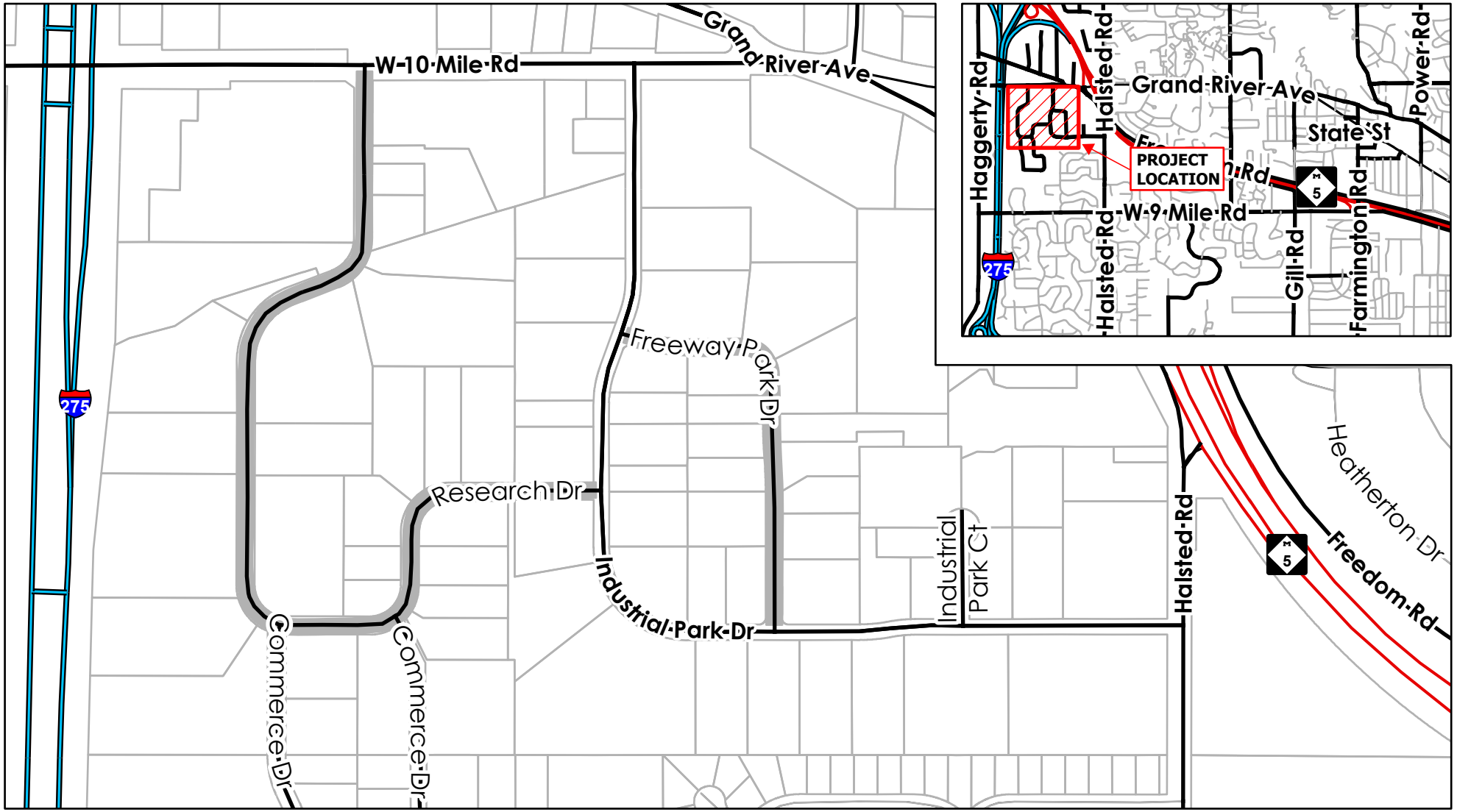
BID SUMMARY

CONTRACTOR	TOTAL
Hard Rock Concrete, Inc. Westland, MI	**$3,977,338.61**
Fonson Company, Inc. Brighton, MI	$4,094,812.00
Florence Cement Company Shelby Twp., MI	$4,301,786.30
Mark Anthony Contracting, Inc. Milford, MI	$4,606,640.46
F.H. Paschen, S.N. Nielsen & Associates LLC Detroit, MI	$4,979,932.67

Table Description: Summary of bid results for the Farmington Freeway Industrial Park Phase 2 – Research Drive & Freeway Park Drive Reconstruction Project

Prepared by: Natasha Sonck, Civil Engineer I
Reviewed by: James Cubera, P.E., City Engineer
Michelle Aranowski, Senior Buyer
Departmental Authorization by: Karen Mondora, P.E., Director of Public Services
Kelly Monico, Director of Central Services
Approval by: Gary Mekjian, P.E., City Manager

City of Farmington Hills
Farmington Freeway Industrial Park - Phase II



Legend

Road Reconstruction

Department of Public Services
1/20/2023 DJE

REPORT FROM THE CITY MANAGER TO CITY COUNCIL
February 27, 2023

SUBJECT: AWARD OF AGREEMENT FOR REPAIR & RESTORATION OF THE STONE WALL AT LONGACRE/HERITAGE PARK

ADMINISTRATIVE SUMMARY

- In front of the Longacre House at Heritage Park, there is approximately 125 linear feet of existing stone wall starting at the south drive going north to just south of the gate that is in a hazardous condition. This includes an area near the southeast corner that goes around an old tree that has been removed except for the stump. The stone needs be removed from the cap to approximately 3' above grade where the face of the wall is not leaning and is close to plumb, as well as have the stump ground down prior to rebuilding the wall in this section. The wall is to be rebuilt using the saved stone. The stone is to be set back into place following the same pattern as the original wall. Contractor will make every effort to put the stone back into or near their original place in the wall. The new mortar is to match the original as close as possible in color and texture. A new brushed concrete cap on top of the wall is to match the original. 100 sq. ft. of deteriorated mortar joints in other various areas needs to be cut out and tuck pointed. At the south facing side of the southeast corner of wall, the contractor shall install 14" long stainless-steel helical anchors horizontally across the separation in the wall and embed these into epoxy to stitch the wall. The crack then needs to be tuck pointed.

- Sealed bids were solicited by Oakland County for Restoration Services. National Restoration, Inc. was awarded a time & materials contract for said services. The awarded contract is offered to the City by extension as part of the MITN Purchasing Cooperative. Participating in a cooperative purchase provides cost savings for the City due to the buying power of the cooperative.

- Based on the extended agreement the proposed repairs will be completed for $110,970.61. Considering the present lack of interested qualified contractors, the reputation and experience of National Restoration, Inc., and the very competitive pricing obtained under the extended Oakland County contract, staff is recommending award of the work to National Restoration, Inc. with an additional 20% contingency allowance for additional repairs required as found during the project.

- Funding for project is available in Special Services Parks Capital Improvement Fund Account.

RECOMMENDATION

In view of the above, it is recommended that City Council authorize the City Manager to approve the required contracts and purchase orders to National Restoration, Inc., for the repair and restoration of the Heritage Park entrance sign stonework, in the amount of $132,970.61 ($110,970.61 plus a contingency of $22,000).

Prepared by: Brian Moran, Deputy Director of Special Services
Reviewed by: Ellen Schnackel, Director of Special Services
Reviewed by: Michelle Aranowski, Senior Buyer
Reviewed by: Kelly Monico, Director of Central Services
Approved by: Gary Mekjian, City Manager

MINUTES
CITY OF FARMINGTON HILLS
FARMINGTON HILLS CITY COUNCIL
CITY HALL - COMMUNITY ROOM
FEBRUARY 13, 2023 – 6:00PM

The study session meeting of the Farmington Hills City Council was called to order by Deputy City Clerk Lindahl at 6:01pm

Council Members Present:	Bridges, Knol, Massey and Newlin
Council Members Absent:	Barnett, Boleware and Bruce
Others Present:	City Manager Mekjian, Deputy City Clerk Lindahl, Assistant City Manager Valentine, Director Mondora and City Attorney Joppich

Deputy Clerk Lindahl explained that due to the absence of the Mayor and Mayor Pro-Tem, per the City of Farmington Hills - Rules of the City Council and Guidelines of Conduct, the councilmembers in attendance this evening must designate a member to serve as the presiding officer for tonight's study session and regular session meetings.

City Attorney Joppich stated that this was a procedural matter, and a motion would be appropriate at this time.

> MOTION by Bridges, support by Knol, that the City Council of Farmington Hills hereby selects Councilmember Massey to serve as the presiding officer in the absence of the Mayor and Mayor Pro-Tem for the February 13, 2023 Study Session and Regular Session meetings.
>
> MOTION CARRIED 4-0.

ADOPTION OF UPDATED STORM WATER DESIGN STANDARDS

Director of Public Services Mondora introduced the City's Environmental Engineer Tyler Sonoga and OHM Consultant Greg Kacvinsky and gave an overview of the new storm water design standards and explained why the city is required to make these updates.

Director Mondora stated that the Department of Public Services administers the City's National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Water Permit (MS4), issued by the State of Michigan EGLE, which has been in effect at the City since 1999 and is required for all municipalities that own and operate a storm water system that discharges flow to the surface waters of the state. The permit has several required elements, one of which requires a mechanism for post construction storm water management on private developments. She explained that recent changes to the State's rules require that the City make updates to the existing design standards for storm water management and to ensure consistency in the application, a coordinated effort by Wayne, Oakland, Livingston, and Macomb Counties was initiated, and updated design standards were negotiated with the State. The coordination effort is important so that there is consistency throughout the region and within the development community.

City Engineer Sonoga explained the following to City Council:

- An overview of the updated post-construction storm water standards

- What development or redevelopment projects the standards would apply to and what projects would be exempt.
- The new site requirements
- Acceptable treatment and storage examples
- The infiltration and reuse requirement
- Changes in detention requirements
- Operation and maintenance plan
- General changes from the current standards to the new standards

City Engineer Sonoga provided Council with examples of storm water management at various sites/projects throughout the city and compared the current storm water standards to the new required standards.

Questions, concerns and suggestions by Council included:

- Impact of the new requirements affecting smaller sites
- Maintenance of the storm water systems
- The city's storm water agreement and flexibility of the agreement depending on the size of a development
- Storm water system inspections
- Impact if city does not adopt the new standards
- Funding sources for storm water treatment

Attorney Joppich explained that the city requires a storm water maintenance agreement which is recorded and travels with the land that states if the system is not properly maintained, the city can go in and take care of it and charge the property owner.

Discussion was held on the city's storm water maintenance agreement, and it was noted by staff that regardless of having an agreement, there are still issues with the maintenance of storm water systems throughout the city, as many are owned by homeowners' associations that do not have the funds to maintain properly. Staff discussed how to determine if the system is not functioning property and how the city would be informed of such issues.

Director Mondora explained that the city can update the agreement for new developments to include the description of the storm water system, more detailed plan to maintain, inspection requirements, and reporting by the property owner.

Council questioned the number of subdivision storm systems owned by homeowners' associations that need to be addressed and indicated that they would like a map showing those locations. Director Mondora responded that the city is working on a GIS map that will include this information.

Director Mondora informed Council that the storm water design standards will be coming back to them as an introduction of an ordinance.

ADJOURNMENT

The study session meeting adjourned at 7:19pm

Respectfully submitted,

Pamela B. Smith, City Clerk

MINUTES
CITY OF FARMINGTON HILLS
CITY COUNCIL MEETING
CITY HALL – COUNCIL CHAMBER
FEBRUARY 13, 2023 – 7:30 PM

The regular session meeting of the Farmington Hills City Council was called to order by Councilmember Massey at 7:33pm.

Council Members Present:	Bridges, Knol, Massey and Newlin
Council Members Absent:	Barnett, Boleware and Bruce
Others Present:	City Manager Mekjian, Deputy City Clerk Lindahl, Assistant City Manager Valentine, Directors Mondora and Monico, and City Attorney Joppich

Councilmember Massey explained that in the absence of the Mayor and Mayor Pro-Tem, the Councilmembers present at the study session, as a matter of procedure, selected him to preside over tonight's city council meetings.

PLEDGE OF ALLEGIANCE
Council member Massey led the pledge of allegiance.

APPROVAL OF REGULAR SESSION MEETING AGENDA
MOTION by Knol, support by Newlin, to approve the agenda as published.

MOTION CARRIED 4-0.

CORRESPONDENCE
Council acknowledged receiving correspondence from residents regarding the staging of construction equipment at the Swim Club Property on Farmington Road for the Kendallwood Water Main Replacement Project (Phase 1).

CONSENT AGENDA
MOTION by Newlin, support by Knol, to approve consent agenda as read.

Roll Call Vote:

Yeas:	BRIDGES, KNOL, MASSEY AND NEWLIN
Nays:	NONE
Absent:	BARNETT, BOLEWARE AND BRUCE
Abstentions:	NONE

MOTION CARRIED 4-0.

PUBLIC QUESTIONS AND COMMENTS
There were no public questions or comments.

COUNCIL MEMBERS COMMENTS AND ANNOUNCEMENTS
There were no Councilmember comments or announcements.

CITY MANAGER UPDATE
There was no update provided.

NEW BUSINESS
CONSIDERATION OF RESCHEDULING THE REGULAR CITY COUNCIL MEETING OF MARCH 27, 2023.

MOTION by Knol, support by Newlin, that the City Council of Farmington Hills hereby reschedules the regular City Council meeting of March 27th to March 20, 2023.

MOTION CARRIED 4-0.

CONSENT AGENDA
RECOMMENDED APPROVAL OF A SPECIAL EVENT PERMIT FOR THE FARMINGTON COMMUNITY LIBRARY TO HOLD FOOD TRUCK TUESDAYS STARTING APRIL THROUGH SEPTEMBER 2023.

MOTION by Newlin, support by Knol, that the City Council of Farmington Hills hereby approves a Special Event Permit for the Farmington Community Library Food Truck Tuesdays to be held on the last Tuesday of every month beginning April through September, 2023 at the Farmington Community Library located at 32737 W. 12 Mile Road, Farmington Hills from 12pm to 2pm, subject to the following terms and conditions:

- There will be plenty of parking provided for attendees at the event
- The applicant is expecting approximately100 participants each day
- There will be roughly six food trucks (one per month) with a 10x10 tent on the property
- The applicant has not asked for assistance from the Police Department at this time and there are no issues with emergency vehicle access
- There shall be no parking within 20' of any tent
- Egress shall be maintained throughout the building
- Fire lanes shall not be blocked or restricted
- Cooking/open flame devices shall not be used under tents and shall be at least 20' away
- Proponent must contact Fire Prevention to discuss the food truck inspection process
- Food trucks shall operate according to NFPA and Fire Prevention Code standards, and specifically:
    - Ensure that fuel tanks are filled to the capacity needed for uninterrupted operation for the duration of the event
    - All connections/piping shall be checked for leaks prior to operating
    - Any cooking system which produces grease laden vapors shall be protected by listed fire extinguishing equipment
    - Fire extinguishers shall be installed and maintained according to NFPA 10
- Event shall comply with minimum Fire Prevention requirements
- If portable generators are used, the applicant must apply for an electrical permit with inspection or provide an affidavit on company letter head from a licensed electrical contractor stating GFI plugs have been tested by them and the generator is safe for operation
- If power cords are connected to the library the applicant must apply for an electrical permit with inspection from the City's electrical inspector

Roll Call Vote:
Yeas: BRIDGES, KNOL, MASSEY AND NEWLIN
Nays: NONE
Absent: BARNETT, BOLEWARE AND BRUCE
Abstentions: NONE

MOTION CARRIED 4-0.

RECOMMENDED APPROVAL OF AWARD OF PROPOSAL FOR OCCUPATIONAL HEALTH SERVICES INCLUDING DRUG AND ALCOHOL TESTING TO HENRY FORD HEALTH, DEPARTMENT OF OCCUPATIONAL HEALTH FOR ONE YEAR, WITH POSSIBLE EXTENSIONS. CMR 2-23-17

MOTION by Newlin, support by Knol, that the City Council of Farmington Hills hereby authorizes the City Manager to enter into an agreement with Henry Ford Health, Department of Occupational Health for a one (1) year with an option to renew with one or more administration-approved extension not to exceed a total of five (5) additional one year extensions under the same terms and conditions upon mutual consent by the City and firm.

Roll Call Vote:
Yeas: BRIDGES, KNOL, MASSEY AND NEWLIN
Nays: NONE
Absent: BARNETT, BOLEWARE AND BRUCE
Abstentions: NONE

MOTION CARRIED 4-0.

RECOMMENDED APPROVAL OF AWARD OF BID FOR HEAVY DUTY 60" ZERO TURN ROTARY MOWER TO WEINGARTZ SUPPLY COMPANY IN THE AMOUNT OF $15,599. CMR 2-23-18

MOTION by Newlin, support by Knol, that the City Council of Farmington Hills hereby authorizes the City Manager to issue a purchase order for an Exmark Model LZX980EKC606W0 Mower, including all specified options, with no trade-in to Weingartz Supply Company in the amount of $15,599.

Roll Call Vote:
Yeas: BRIDGES, KNOL, MASSEY AND NEWLIN
Nays: NONE
Absent: BARNETT, BOLEWARE AND BRUCE
Abstentions: NONE

MOTION CARRIED 4-0.

RECOMMENDED APPROVAL OF AWARD OF BID FOR FIRE EXTINGUISHER INSPECTION, MAINTENANCE, TESTING AND CERTIFICATION TO EASTMAN FIRE PROTECTION COMPANY, LLC IN AN ESTIMATED AMOUNT OF $10,000 FOR A PERIOD OF ONE YEAR, WITH POSSIBLE EXTENSIONS. CMR 2-23-19

MOTION by Newlin, support by Knol, that the City Council of Farmington Hills hereby authorizes the City Manager to approve all budgeted purchase orders to Eastman Fire Protection Company, LLC for Fire Extinguisher Inspection, Maintenance, Testing and Certification in an

estimated annual amount of $10,000.00 for a period of one (1) year with one or more administration-approved extensions not to exceed a total of four (4) additional years, under the same terms and conditions, through mutual consent by the City of Farmington Hills and each awarded vendor.

Roll Call Vote:
Yeas: BRIDGES, KNOL, MASSEY AND NEWLIN
Nays: NONE
Absent: BARNETT, BOLEWARE AND BRUCE
Abstentions: NONE

MOTION CARRIED 4-0.

RECOMMENDED APPROVAL OF AWARD OF CONTRACT FOR THE QUAKER VALLEY ROAD CULVERTS RECONSTRUCTION PROJECT TO ANGLIN CIVIL LLC IN THE AMOUNT OF $2,349,239.17. CMR 2-23-20

MOTION by Newlin, support by Knol, that the City Council of Farmington Hills hereby approves the award of Quaker Valley Road Culverts Reconstruction Project to the lowest competent bidder, Anglin Civil LLC of Livonia, Michigan, in the amount of $2,349,239.17, and

IT IS FURTHER RESOLVED, that the City Council authorizes the City Manager and the City Clerk to execute the contract on behalf of the City.

Roll Call Vote:
Yeas: BRIDGES, KNOL, MASSEY AND NEWLIN
Nays: NONE
Absent: BARNETT, BOLEWARE AND BRUCE
Abstentions: NONE

MOTION CARRIED 4-0.

RECOMMENDED APPROVAL OF EXTENSION OF AGREEMENT FOR 2023 HERITAGE PARK ASPHALT PATH RESURFACING PROJECT WITH HUTCH PAVING IN THE AMOUNT OF $86,967. CMR 2-23-21

MOTION by Newlin, support by Knol, that the City Council of Farmington Hills hereby approves the extension of the agreement with Hutch Paving, for the 2023 Heritage Parks path resurfacing project in the amount of $86,967, and

IT IS FURTHER RESOLVED, that the City Council authorizes City Manager and City Clerk to prepare and execute the extension of the agreement on behalf of the City of Farmington Hills and issue a purchase order for the same.

Roll Call Vote:
Yeas: BRIDGES, KNOL, MASSEY AND NEWLIN
Nays: NONE
Absent: BARNETT, BOLEWARE AND BRUCE
Abstentions: NONE

MOTION CARRIED 4-0.

RECOMMENDED OF REQUEST FOR EMPLOYMENT UNDER SECTION 10.01A OF THE CITY CHARTER FOR A SWIM INSTRUCTOR.

MOTION by Newlin, support by Knol, that the City Council of Farmington Hills hereby approves the request for employment under Section 10.01A of the City Charter for Javelle Nunnery as a Swim Instructor in the Special Services Department. Javelle is the son of Larry Nunnery, who is an Aquatics Programmer in the Special Services Department.

Roll Call Vote:
Yeas: BRIDGES, KNOL, MASSEY AND NEWLIN
Nays: NONE
Absent: BARNETT, BOLEWARE AND BRUCE
Abstentions: NONE

MOTION CARRIED 4-0.

RECOMMENDED APPROVAL OF CITY COUNCIL GOALS STUDY SESSION MEETING MINUTES OF JANUARY 21, 2023

MOTION by Newlin, support by Knol, that the City Council of Farmington Hills hereby approves the goals study session meeting minutes of January 21, 2023.

Roll Call Vote:
Yeas: BRIDGES, KNOL, MASSEY AND NEWLIN
Nays: NONE
Absent: BARNETT, BOLEWARE AND BRUCE
Abstentions: NONE

MOTION CARRIED 4-0.

RECOMMENDED APPROVAL OF CITY COUNCIL STUDY SESSION MEETING MINUTES OF JANUARY 23, 2023.

MOTION by Newlin, support by Knol, that the City Council of Farmington Hills hereby approves the study session meeting minutes of January 23, 2023.

Roll Call Vote:
Yeas: BRIDGES, KNOL, MASSEY AND NEWLIN
Nays: NONE
Absent: BARNETT, BOLEWARE AND BRUCE
Abstentions: NONE

MOTION CARRIED 4-0.

RECOMMENDED APPROVAL OF CITY COUNCIL REGULAR SESSION MEETING MINUTES OF JANUARY 23, 2023.

MOTION by Newlin, support by Knol, that the City Council of Farmington Hills hereby approves the regular session meeting minutes of January 23, 2023.

Roll Call Vote:
Yeas: BRIDGES, KNOL, MASSEY AND NEWLIN
Nays: NONE

Absent: BARNETT, BOLEWARE AND BRUCE
Abstentions: NONE

MOTION CARRIED 4-0.

ADDITIONS TO AGENDA
There were no additions to the agenda.

ATTORNEY REPORT
The attorney's report was received.

ADJOURNMENT
MOTION by Massey, support by Bruce, to adjourn the regular session City Council meeting at 7:41pm.

MOTION CARRIED 4-0.

Respectfully submitted,

Pamela B. Smith, City Clerk