NE¼, SEC.29, T.27N., R.43E., W.M.

# WINDSOR PHASE 2B.1

## STREET AND DRAINAGE PLANS

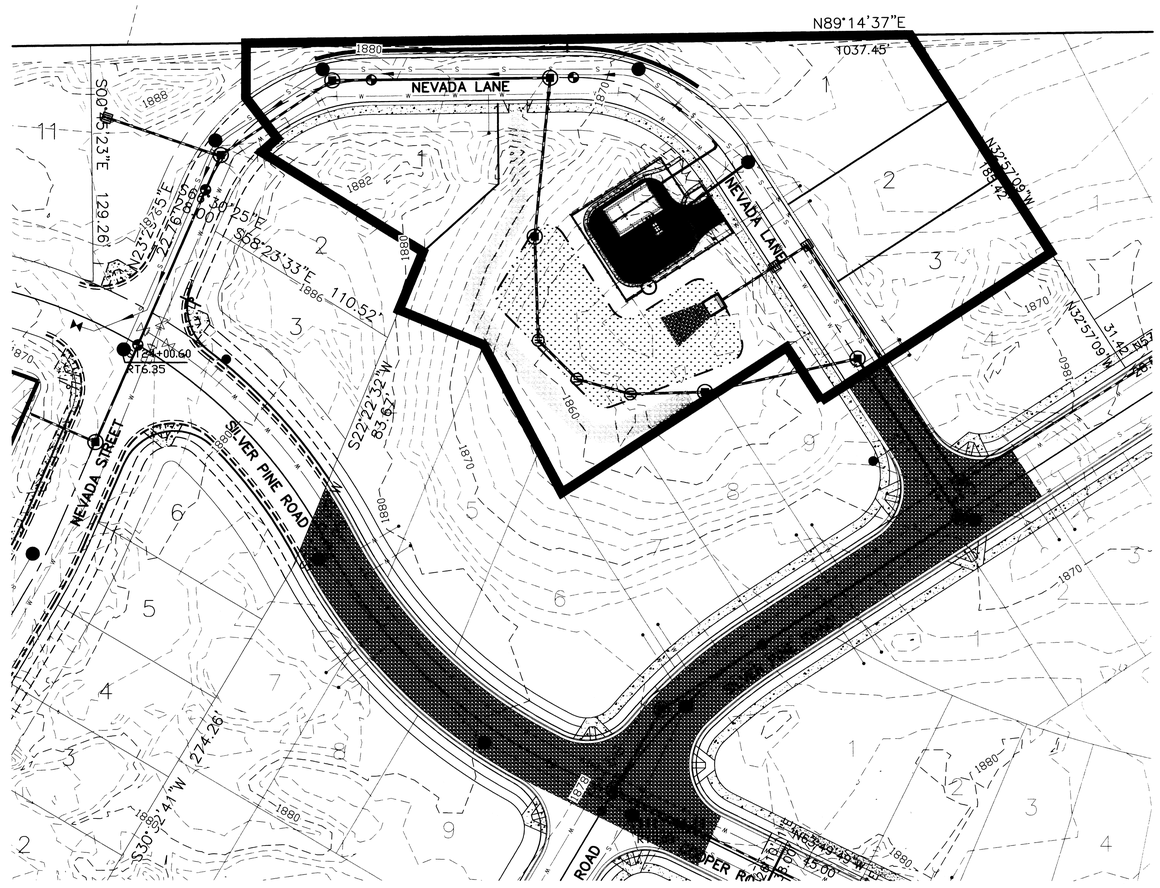
### SPOKANE COUNTY, WASHINGTON

### NE 1/4 SECTION 29, T. 27 N., R. 43 E., W.M.

UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
811
CALL TWO BUSINESS DAYS BEFORE YOU DIG

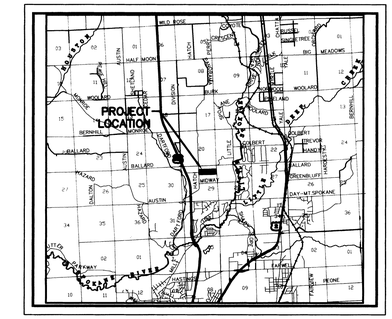
## LEGEND

| EXISTING | DESCRIPTION | PROPOSED |
|---|---|---|
| | ROADWAY CENTER LINE | |
| | RIGHT OF WAY LINE | |
| | PROPERTY LINE | |
| | EASEMENT LINE | |
| x x | FENCE | x x |
| | CURB | |
| | PAVEMENT | |
| | GRAVEL | |
| | CONCRETE | |
| | BUILDINGS & STRUCTURES | |
| | MONUMENT | |
| | **SEWER** | |
| | SANITARY SEWER | |
| | MANHOLE | |
| | CLEANOUT | |
| | SEWER SERVICE | |
| | **WATER** | |
| V | WATER LINE | |
| FH | VALVE | V |
| WS | FIRE HYDRANT | FH |
| WM | SERVICE | WS |
| BLOWOFF | METER | WM |
| AVRS | BLOWOFF | BLOWOFF |
| | AIR VACUUM RELIEF STATION | AVRS |
| | **DRAINAGE** | |
| MH | DRAINAGE LINE | |
| DW | MANHOLE | MH |
| CB | DRYWELL | DW |
| | CATCH BASIN | CB |
| | DITCH | |
| | **GAS** | |
| G V G | GAS LINE | G |
| GM | VALVE | V |
| | METER | GM |
| | **TELE-POWER** | |
| BT BT | BURIED TELEPHONE | BT BT |
| PP | POWER OR TELEPHONE POLE | |
| BP BP | BURIED POWER | BP BP |
| TP | TRANSFORMER PAD | TP |
| TR | TELEPHONE RISER | TR |
| T TV | TELEPHONE VAULT | TV T |
| OP OP | OVERHEAD POWER | OH OH |
| GA | GUY ANCHOR | GA |
| P PV | POWER VAULT | P PV |
| LP | LIGHT POLE | LP |




SITE PLAN
1"=40'

N
W E
S
GRAPHIC SCALE
40 0 20 40 80
( IN FEET )
1 inch = 40 ft.




VICINITY MAP

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## ABBREVIATIONS

| | | | | | |
|---|---|---|---|---|---|
| ACT. LEN. | ACTUAL LENGTH | GB | GRADE BREAK | PRC | POINT OF REVERSE CURVE |
| BCR | BEGINNING OF CURVE RADIUS | FT./FT. | FEET PER FOOT | PT | POINT OF TANGENCY |
| BDRY. | BOUNDARY | HYD. | HYDRANT | RIM EL. | RIM ELEVATION |
| CO. | SEWER CLEANOUT | I.E. | INVERT ELEVATION | RD | ROAD |
| CSTC | CRUSHED SURFACE TOP COURSE | LN. | LANE | RT. | RIGHT |
| CT. | COURT | LT. | LEFT | SI | STREET INTERSECTION |
| DIA. | DIAMETER | MH | MANHOLE | SS | SANITARY SEWER |
| ECR | END OF CURVE RADIUS | MCR | MIDDLE OF CURVE RADIUS | STA. | STATION |
| EXIST. | EXISTING | PC | POINT OF CURVATURE | STA. LEN. | STATION LENGTH |
| G | GRADE | PET. | PETROLEUM | TG | TOP OF GRATE |
| | | PI | POINT OF INTERSECTION | TC | TOP OF CURB |

### STREETS
SPOKANE COUNTY ENGINEERS
1026 WEST BROADWAY AVENUE
SPOKANE, WASHINGTON 99260
PHONE: 509-477-3600
FAX: 509-477-7655
CONTACT: MATT ZARECORE, P.E.

### WATER
WHITWORTH WATER DISTRICT #2
10828 WAIKIKI ROAD
SPOKANE, WA 99218
PHONE: 509-466-0550
FAX: 509-467-1830
CONTACT: DOUG BABIN

### SEWER
SPOKANE COUNTY UTILITIES
1026 WEST BROADWAY AVENUE
SPOKANE, WASHINGTON 99260
PHONE: 509-477-7180
FAX: 509-477-4715
CONTACT: CHRIS KNUDSON

### TELEPHONE
CENTURY LINK
904 NORTH COLUMBUS
SPOKANE, WA 99202
PHONE: 509-623-0307
FAX: 509-455-2104
CONTACT: TIM GREENWOOD

### INSPECTION
TBD

### FIRE
FIRE DISTRICT NO. 9
3801 EAST FARWELL ROAD
MEAD, WASHINGTON 99021
PHONE: 509-466-4602
FAX: 509-466-4698
CONTACT: DAN WALSH

### HEALTH
SPOKANE REGIONAL HEALTH
1101 WEST COLLEGE AVENUE
SPOKANE, WA 99260
PHONE: 509-324-1560 EXT. 1
FAX: 509-324-3603
CONTACT: DON COPLEY

### GAS/POWER
AVISTA UTILITIES
1411 E. MISSION AVENUE
SPOKANE, WA 99220
PHONE: 509-495-4183
FAX: 509-495-8734
CONTACT: MARGIE RICHARDS

### CABLE
COMCAST BROADBAND
1717 EAST BUCKEYE
SPOKANE, WA 99207
PHONE: 509-755-4717
FAX: 509-755-4863
CONTACT: BRYAN RICHARDSON

### ENGINEER
WHIPPLE CONSULTING ENGINEERS
2528 NORTH SULLIVAN ROAD
SPOKANE VALLEY, WA 99216
PHONE: 509-893-2617
FAX: 509-926-0227
CONTACT: TODD R. WHIPPLE, P.E.

### SOLID WASTE
WASTE MANAGEMENT
SPOKANE, WASHINGTON
PHONE: 509-466-3400

### SURVEY
WHIPPLE CONSULTING ENGINEERS
2528 NORTH SULLIVAN ROAD
SPOKANE VALLEY, WA 99216
PHONE: 509-893-2617
FAX: 509-926-0227
CONTACT: JON GORDON, P.L.S.

### OWNER
HANCOCK DEVELOPMENT
P.O. BOX 147
GREENACRES, WA 99016
PHONE: 509-951-4976
CONTACT: TRAVIS PASKE

* Supplemental area to support final platting activity and phasing plan.

SPOKANE COUNTY PUBLIC WORKS
OFFICIAL PUBLIC DOCUMENT ORIGINAL
**CONSTRUCTION PLANS**
PROJECT #: P-19533A
DATE ACCEPTED: 08-15-14
ACCEPTANCE EXPIRES: 08-15-16
PROJECTS LANE MILES: PUBLIC: ___
PROJECT LANE MILES PRIVATE: .15
CONSTRUCTION DOCUMENTATION AND CERTIFIED RECORD DRAWINGS, "AS-BUILTS" ARE REQUIRED PRIOR TO COUNTY ACCEPTANCE AND ESTABLISHMENT OF THE ROADS AND DRAINAGE FACILITIES FOR MAINTENANCE
PERMIT REQUIRED! (509) 477-3600
NOTIFY PERMIT ENGINEER 2 BUSINESS DAYS PRIOR TO CONSTRUCTION

TODD R. WHIPPLE
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
25462
8/14/14

NAVD - 88
VERTICAL DATUM BASED ON FOUND TEMPORARY BENCH MAKR LOCATED AT (GENERAL LOCATION) 3.4 MILES NORTH OF THE JUNCTION OF SR 395 AND SR 002
TBM - (WSDOT BRASS DISK IN CONC. #GP32395-202 & 523.24 M - NAVD88 (CALCULATED 1716.67 FT).

| NO. | DATE | BY | REVISIONS |
|---|---|---|---|
| - | 07/21/14 | BNG | ORIGINAL PREPARATION |

SCALE:
HORIZONTAL: 1"= 40'
VERTICAL: -

PROJ #: 04-063F
DATE: 08/05/14
DRAWN: BNG
REVIEWED: TRW

X CIVIL
STRUCTURAL
SURVEYING
TRAFFIC
PLANNING
LANDSCAPE
OTHER

WCE
WHIPPLE CONSULTING ENGINEERS
2528 NORTH SULLIVAN ROAD
SPOKANE VALLEY, WA 99216
PH: 509-893-2617 FAX: 509-926-0227

**WINDSOR ESTATES PHASE 2B.1**
**COVER SHEET**
**HATCH ROAD & SILVER PINE ROAD**
**SPOKANE COUNTY, WASHINGTON**

SHEET 0.0

JOB NUMBER 2004-063F

WORK\Land Projects 2005\04-63F Windsor Ph 2B\DWG\C0.0 COVER SHEET.dwg, COVER 0.0, 8/14/2014 9:19:03 AM

UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
811
CALL TWO BUSINESS DAYS BEFORE YOU DIG

## GENERAL NOTES

1. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION OF SITE IMPROVEMENTS SHALL MEET OR EXCEED SITE WORK STANDARDS AND THE STANDARDS AND SPECIFICATIONS SET FORTH IN SPOKANE COUNTY REGULATIONS AND APPLICABLE STATE AND FEDERAL REGULATIONS. WHERE THERE IS CONFLICT BETWEEN THESE PLANS AND THE SPECIFICATIONS, OR ANY APPLICABLE STANDARDS, THE HIGHER QUALITY STANDARD SHALL APPLY. ALL WORK WITHIN PUBLIC R.O.W. OR EASEMENTS SHALL BE INSPECTED AND APPROVED BY SPOKANE COUNTY INSPECTOR. INSPECTION SERVICES AND CONSTRUCTION CERTIFICATION TO BE PROVIDED BY DESIGNEE OF PROJECT SPONSOR/OWNER.

2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS, IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY PERTINENT LOCATIONS AND ELEVATIONS, ESPECIALLY AT THE CONNECTION POINTS AND AT POTENTIAL UTILITY CONFLICTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM ALL APPLICABLE AGENCIES. THE CONTRACTOR SHALL NOTIFY SPOKANE COUNTY INSPECTOR AT LEAST 48 HOURS PRIOR TO THE START OF ANY EARTH DISTURBING ACTIVITY OR CONSTRUCTION ON ANY AND ALL PUBLIC IMPROVEMENTS.

4. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH SPOKANE COUNTY AND ALL UTILITY COMPANIES WITH REGARD TO RELOCATIONS OR ADJUSTMENTS OF EXISTING UTILITIES DURING CONSTRUCTION, TO ASSURE THAT THE WORK IS ACCOMPLISHED IN A TIMELY FASHION, AND WITH A MINIMUM DISRUPTION OF SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL PARTIES AFFECTED BY ANY DISRUPTION OF ANY UTILITY SERVICE.

5. THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THE APPROVED PLANS, ONE (1) COPY OF THE APPROPRIATE STANDARDS AND SPECIFICATIONS, AND ONE (1) COPY OF ANY PERMITS AND EXTENSION AGREEMENTS NEEDED FOR THE JOB ON-SITE AT ALL TIMES.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS OF SAFETY INCLUDING, BUT NOT LIMITED TO: EXCAVATION, TRENCHING, SHORING, TRAFFIC CONTROL, AND SECURITY.

7. IF, DURING THE CONSTRUCTION PROCESS, CONDITIONS ARE ENCOUNTERED BY THE CONTRACTOR, HIS SUBCONTRACTORS, OR OTHER AFFECTED PARTIES WHICH COULD INDICATE A SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.

8. ALL REFERENCES TO ANY PUBLISHED STANDARDS SHALL REFER TO THE LATEST REVISION OF SAID STANDARD, UNLESS SPECIFICALLY STATED OTHERWISE.

9. FOR WORK AFFECTING PUBLIC ROADWAYS OR IF REQUIRED BY SPOKANE COUNTY, THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL AND PHASING PLAN IN ACCORDANCE WITH M.U.T.C.D. FOR APPROVAL PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN OR AFFECTING THE RIGHT-OF-WAY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY AND ALL TRAFFIC CONTROL DEVICES AS MAY BE REQUIRED BY SAID PLANS. PRIOR TO INSTALLATION.
A PRECONSTRUCTION CONFERENCE SHALL BE HELD WITH SPOKANE COUNTY.

10. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL LABOR AND MATERIALS NECESSARY FOR THE COMPLETION OF THE INTENDED IMPROVEMENTS SHOWN ON THESE DRAWINGS OR DESIGNATED TO BE PROVIDED, INSTALLED, CONSTRUCTED, REMOVED OR RELOCATED UNLESS SPECIFICALLY NOTED OTHERWISE.

11. PER AGENCY STANDARDS THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ROADWAYS FREE AND CLEAR OF ALL CONSTRUCTION DEBRIS AND DIRT TRACKED FROM THE SITE.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING RECORD INFORMATION ON A SET OF RECORD DRAWINGS KEPT AT THE CONSTRUCTION SITE AND AVAILABLE TO SPOKANE COUNTY INSPECTOR AT ALL TIMES.

13. DIMENSIONS FOR LAYOUT AND CONSTRUCTION ARE NOT TO BE SCALED FROM ANY DRAWING. FOR ADDITIONAL INFORMATION CONTACT THE ENGINEER FOR CLARIFICATION AND NOTE ON THE RECORD DRAWINGS.

14. ALL EROSION AND SEDIMENT CONTROL (E.S.C.) MEASURES SHALL BE INSTALLED AT THE LIMITS OF CONSTRUCTION PRIOR TO GROUND DISTURBING ACTIVITY. ALL E.S.C. MEASURES SHALL BE MAINTAINED IN GOOD REPAIR BY THE CONTRACTOR UNTIL SUCH TIME AS THE ENTIRE DISTURBED AREAS ARE STABILIZED WITH HARD SURFACE OR LANDSCAPING.

15. THE CONTRACTOR SHALL SEQUENCE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO MINIMIZE POTENTIAL UTILITY CONFLICTS. IN GENERAL, STORM SEWER AND SANITARY SEWER SHOULD BE CONSTRUCTED PRIOR TO INSTALLATION OF WATER LINES AND DRY UTILITIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL UTILITY RELOCATIONS CONSISTENT WITH THE CONTRACTORS SCHEDULE FOR THIS PROJECT, WHETHER SHOWN OR NOT SHOWN, AS IT RELATES TO THE CONSTRUCTION ACTIVITIES CONTEMPLATED IN THESE PLANS.

16. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY IS SUBJECT TO THE JURISDICTION OF SPOKANE COUNTY ENGINEERING DEPARTMENT STANDARD DETAILS AND SPECIFICATIONS.

17. ALL CONSTRUCTION OPERATIONS, INCLUDING THE WARMING UP, REPAIR, ARRIVAL, DEPARTURE OR RUNNING OF TRUCKS, EARTH MOVING EQUIPMENT, CONSTRUCTION EQUIPMENT AND ANY OTHER ASSOCIATED EQUIPMENT SHALL GENERALLY BE LIMITED TO THE TIME PERIOD APPROVED BY SPOKANE COUNTY.

BASED ON REQUIREMENTS FROM SPOKANE COUNTY, THE ENGINEER OR HIS DESIGNEE SHALL PERFORM MATERIALS TESTING AND QUALITY CONTROL ON THE PROJECT AND SHALL SUBMIT COPIES OF DAILY REPORTS, TEST REPORTS, PROJECT CERTIFICATION AND RECORD DRAWINGS TO SPOKANE COUNTY ENGINEER.

18. NO REVISIONS SHALL BE MADE TO THESE PLANS WITHOUT APPROVAL OF SPOKANE COUNTY ENGINEERS AND NOTIFICATION OF THE ENGINEER OF RECORD.

19. ON-SITE GRADING SHALL BE IN ACCORDANCE WITH THE APPROVED GRADING PLAN AND E.S.C. PLAN. ANY IMPORT OR EXPORT OF MATERIAL SHALL BE FROM A PREAPPROVED SOURCE/DESTINATION AND COORDINATED WITH SPOKANE COUNTY DEPARTMENT OF BUILDING AND PLANNING AT 509-477-3675. GRADING ON THIS SITE OR ANY OTHER SITE MUST COMPLY WITH ALL DEVELOPMENT REGULATIONS INCLUDING, BUT NOT LIMITED TO , GRADING PERMITS, S.E.P.A. REVIEW, TIMBER HARVEST PERMITS, CRITICAL AREAS, FLOOD PLAINS, DESIGNATED DRAINAGE WAYS, ETC.

20. THE CONTRACTOR IS CAUTIONED THAT IT IS THE UNDERSTANDING OF THE OWNER AND THE ENGINEER THAT SHOULD A CONFLICT OR DISCREPANCY IN THESE PLANS, SPECIFICATIONS, GENERAL NOTES OR PLANS ET.AL. DETERMINED TO BE PART OF THE OVERALL PROJECT, INCLUDING BUT NOT LIMITED TO THE ARCHITECTURAL PLANS, MECHANICAL PLANS, ELECTRICAL PLANS, LANDSCAPE PLANS, GENERAL SPECIAL PROVISIONS, ETC., THAT WITHOUT WRITTEN CLARIFICATION FROM THE ENGINEER, OWNER OR OTHER PROFESSIONAL, DURING THE BIDDING PROCESS, THAT IN ALL INSTANCES THE CONTRACTOR WILL BE REQUIRED TO BID THE HIGHER STANDARD. FAILURE TO DO SO MAY RESULT IN THE HIGHER STANDARD BEING REQUIRED BY THE OWNER, ENGINEER OR OTHER PROFESSIONAL WITH NO CHANGE IN VALUE TO THE CONTRACT VIA CHANGE ORDER OR OTHER MECHANISM.

21. CONSTRUCTION OF EVERY DRYWELL, INCLUDING FABRIC AND DRAINROCK, SHALL BE OBSERVED BY THE ON-SITE INSPECTOR TO CONFIRM THAT IT MEETS THE DESIGN DETAILS AND SPECIFICATIONS. DRYWELLS NOT OBSERVED SHALL HAVE THEIR PERFORMANCE VERIFIED BY A FULL-SCALE DRYWELL TEST.

23. DURING CONSTRUCTION THE CONTRACTOR IS RESPONSIBLE TO COORDINATE ANY AND ALL INCONSISTENCIES BETWEEN THESE PLANS AND CONSTRUCTION STAKING. CONTRACTOR ASSUMES RESPONSIBILITY TO CONSTRUCT TO THESE PLANS IN LIEU OF FIELD STAKING. SHOULD INCONSISTENCIES BE APPARENT THE CONTRACTOR SHALL CONTACT THE ENGINEER, OWNER, AND SURVEYOR TO RECTIFY THE DISCREPANCY PRIOR TO CONSTRUCTION EFFORT BEING APPLIED.

## GENERAL GRADING NOTES

1. CONTOURS AND / OR ELEVATIONS SHOWN ARE FOR FINISHED PAVING, SIDEWALK, SLAB, OR GROUND. ADJUSTMENT TO SUBGRADE IS THE CONTRACTOR'S RESPONSIBILITY.

2. ALL DISTURBED AREAS THAT ARE UNSURFACED OR ARE NOT DESIGNATED AS LANDSCAPE AREAS ARE TO BE SEEDED, FERTILIZED, AND WATERED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.

3. IF DURING THE OVERLOT GRADING PROCESS, CONDITIONS ARE ENCOUNTERED WHICH COULD INDICATE AN UNIDENTIFIED SITUATION IS PRESENT, THE SOILS ENGINEER SHALL BE CONTACTED FOR RECOMMENDATIONS.

4. UNLESS OTHERWISE SHOWN, NO PROPOSED SLOPE SHALL EXCEED THREE (3) HORIZONTAL TO ONE (1) VERTICAL. ALL SLOPED AREAS MUST BE PROTECTED FROM EROSION.

5. IF STRIPPED MATERIALS CONSISTING OF VEGETATION AND ORGANIC MATERIALS ARE STOCKPILED ON THE SITE, TOPSOIL MAY BE PLACED TO A HEIGHT OF FIVE FEET. SILT FENCE SHALL BE PLACED AROUND THE BASE OF THE STOCKPILE AND THE STOCKPILE SHALL BE SEEDED WITH NATIVE SEED MIX IMMEDIATELY AFTER STRIPPING OPERATIONS ARE COMPLETE.

6. SPOT ELEVATIONS SHALL TAKE PRECEDENCE OVER CONTOURS AND SLOPES SHOWN. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF SPOT ELEVATIONS THAT DO NOT APPEAR TO BE CONSISTENT WITH THE CONTOURS AND SLOPES. SPOT ELEVATIONS AND SPECIFIC PROFILE DESIGN SHALL BE USED FOR SETTING ELEVATIONS OF CURB, GUTTER, AND UTILITIES.

7. BENCHMARK VERIFICATION: CONTRACTOR SHALL USE BENCHMARKS AND DATUMS SHOWN HEREON TO SET PROJECT BENCH MARK'S), BY RUNNING A LEVEL LOOP BETWEEN AT LEAST TWO BENCHMARKS, AND SHALL PROVIDE SURVEY NOTES OF SUCH TO PROJECT ENGINEER PRIOR TO COMMENCING CONSTRUCTION.

8. ALL UTILITIES (MANHOLES, VALVE COVERS, CLEANOUTS, VAULTS, BOXES, ETC.) SHALL BE ADJUSTED TO FINAL GRADE PRIOR TO THE FINAL LIFT OF ASPHALT.

9. GRADES WITHIN ASPHALT PARKING AREAS SHALL BE CONSTRUCTED TO WITHIN 0.10 FEET OF THE DESIGN GRADE. HOWEVER, THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE IN ALL PAVEMENT AREAS AND ALONG ALL CURBS. ALL CURBS SHALL BE BUILT IN ACCORDANCE TO THE PLAN. CURBS OR PAVEMENT AREAS WHICH DO NOT PROVIDE PROPER DRAINAGE MUST BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

10. SPOT ELEVATIONS REPRESENT FLOW LINE OR TOP OF ASPHALT UNLESS OTHERWISE NOTED.

11. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING HIS OWN ESTIMATE OF EARTHWORK QUANTITIES.

12. WHERE NEW CURB AND GUTTER IS BEING CONSTRUCTED ADJACENT TO EXISTING ASPHALT OR CONCRETE PAVEMENT, THE FOLLOWING SHALL APPLY: PRIOR TO PLACEMENT OF ANY CONCRETE THE CONTRACTOR SHALL HAVE A LICENSED SURVEYOR VERIFY THE GRADE AND CROSS SLOPE OF THE CURB AND GUTTER FORMS. THE CONTRACTOR SHALL SUBMIT THE SLOPES AND GRADES TO THE ENGINEER FOR APPROVAL PRIOR TO PLACEMENT OF CONCRETE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY SECTION WHICH DOES NOT CONFORM TO THE DESIGN OR TYPICAL CROSS SECTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CURB AND GUTTER POURS WITHOUT THE APPROVAL OF THE ENGINEER.

13. THE EARTHWORK FOR ALL BUILDING FOUNDATIONS AND SLABS SHALL BE IN ACCORDANCE WITH ARCHITECTURAL BUILDING PLANS AND SPECIFICATIONS.

14. PRE CAST STRUCTURES MAY BE USED AT CONTRACTORS OPTION.

15. EXISTING DRAINAGE STRUCTURES TO BE INSPECTED AND REPAIR AS NEEDED, AND EXISTING PIPES TO BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.

16. EXISTING GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT INTERVALS.

17. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.

18. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.

19. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.

20. TOPOGRAPHIC INFORMATION TAKEN FROM A TOPOGRAPHIC SURVEY PROVIDED BY THE OWNER . IF CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS. WITHOUT EXCEPTION, HE SHALL HAVE MADE, AT HIS EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR AND SUBMIT IT TO THE OWNER FOR REVIEW.

21. ALL UNSURFACED AREA DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. (CONTRACTOR SHALL PLACE SOD OR HYDROSEED DISTURBED AREAS IN ACCORDANCE WITH CITY/COUNTY SPECIFICATIONS AND MAINTAINED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.)

22. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND SITE SHALL BE CONSTRUCTED TO SAME.

23. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL UTILITIES AND NOTIFYING THE APPROPRIATE UTILITY COMPANY PRIOR TO BEGINNING CONSTRUCTION.

24. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

25. ENGINEER SHALL BE NOTIFIED WHEN 'CURBING STRING LINE' HAS BEEN SET, PRIOR TO CURBING BEING INSTALLED.

## STREET GENERAL NOTES

THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, AND EQUIPMENT TO CONSTRUCT AND INSTALL TO PROPER WORKING ORDER. ALL IMPROVEMENTS AS DETAILED OR CALLED OUT ON THESE PLANS.

1. ALL WORK AND MATERIALS SHALL BE IN CONFORMANCE WITH THE "SPOKANE COUNTY STANDARDS FOR ROAD AND SEWER CONSTRUCTION, CURRENT EDITION", AND AS AMENDED.

2. THE CONTRACTOR IS REQUIRED TO HAVE A VALID CONSTRUCTION PERMIT ON SITE AT ALL TIMES. THE ABSENCE OF THE PERMIT WILL RESULT IN AN IMMEDIATE SHUTDOWN OF WORK AND THE POSSIBLE REMOVAL OF THOSE ITEMS CONSTRUCTED WITHOUT THE PERMIT.

3. LOCATIONS OF EXISTING UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES. ANY CONFLICTING UTILITIES SHALL BE RELOCATED PRIOR TO CONSTRUCTION OF ROAD AND DRAINAGE FACILITIES.

4. THE CONTRACTOR IS REQUIRED TO HAVE A COMPLETE SET OF THE APPROVED ROAD AND DRAINAGE PLANS ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.

5. IF THE CONTRACTOR DISCOVERS ANY DISCREPANCIES BETWEEN THE PLANS AND EXISTING CONDITIONS ENCOUNTERED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE DESIGN ENGINEER, TODD R WHIPPLE, P.E., @ 893-2617, THE SITE/PROJECT INSPECTING ENGINEER OR HIS REPRESENTATIVE, AND THE SPOKANE COUNTY ENGINEER'S OFFICE, CONSTRUCTION ENGINEER, @ 477-3600.

6. FOR CONSTRUCTION OF DRYWELLS, INSTALL FILTER FABRIC, "AMOCO" 4545 OR APPROVED EQUAL, BETWEEN THE DRYWELL BARREL AND THE WASHED DRAINROCK AND BETWEEN THE WASHED DRAINROCK AND NATIVE SOILS PER SPOKANE COUNTY STANDARD DETAIL B-1a.

7. PRIOR TO SITE CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES. CALL THE UNDERGROUND UTILITY LOCATION SERVICE AT 456-8000 BEFORE YOU DIG.

8. THE CONTRACTOR SHALL MAKE AN EFFORT TO PROTECT ALL CATCH BASINS AND DRYWELLS FROM BEING CONTAMINATED WITH SILT BY INSTALLING FILTER FABRIC UNDER THE LID FOR AT LEAST 6 WEEKS, OR UNTIL THE ESTABLISHMENT OF GRASS AND/OR OTHER SITE CONSTRUCTION WORK HAS ENDED. IN THE EVENT THAT SILT OR OTHER DELETERIOUS MATERIAL IS ALLOWED TO ENTER THE DRYWELLS OR CATCH BASINS THE CONTRACTOR WILL BE REQUIRED TO CLEAN OUT THE DRYWELL OR CATCH BASIN TO THE SATISFACTION OF THE CERTIFYING ENGINEER.

9. THE CONTRACTOR SHALL EMPLOY A LICENSED SURVEYOR TO VERIFY THAT THE CROSS- GUTTER FORMS ARE THE CORRECT PLANE GRADE PRIOR TO CONCRETE PLACEMENT. THE CROSS-GUTTERS SHALL BE CONSTRUCTED PRIOR TO PAVING, AND THE PAVEMENT SHALL THEN MATCH THE EDGE OF CONCRETE GUTTER.

10. ALL DRYWELL CONNECTION PIPES SHALL BE PLACED BELOW THE DRYWELL CONE AND SHALL FLOW AS DIRECTED IN THE PLANS.

11. FOR ANY CURB GRADES LESS THAN 0.8 % (0.008 FT./FT.), A WASHINGTON STATE LICENSED PROFESSIONAL LAND SURVEYOR SHALL VERIFY THAT THE CURB FORMS ARE AT THE GRADES NOTED ON THE APPROVED PLANS, PRIOR TO PLACEMENT OF CURB MATERIAL. THE CONTRACTOR IS RESPONSIBLE FOR ARRANGING AND COORDINATING WORK WITH THE PROFESSIONAL LAND SURVEYOR.

## STORM DRAINAGE NOTES

1. SEE STREET PLAN AND PROFILE SHEETS FOR DRYWELL AND CATCH BASIN TYPES AND LOCATIONS.

2. PONDS SHALL BE CONSTRUCTED PER THE REQUIREMENTS OF THESE DRAWINGS INCLUDING GRADING, SOD, AND DRYWELL INSTALLATION. ALL PONDS WITHIN TRACTS SHALL INCLUDE AN IRRIGATION SYSTEM. ALL IRRIGATION SHALL CONFORM TO SPOKANE COUNTY POND IRRIGATION SYSTEM GUIDELINES.

3. ALL PONDS/SWALES SHOWN SHALL BE ROUGH GRADED PRIOR TO PAVING OF ADJACENT ROADWAY.

4. CONTRACTOR SHALL PROVIDE SPOKANE COUNTY WITH AS-BUILT IRRIGATION PLANS UPON COMPLETION OF ALL POND CONSTRUCTION.

5. INSTALL "AMOCO" #4545 FILTER FABRIC (OR APPROVED EQUAL) IN ALL DRYWELLS/GRAVEL GALLERIES. SEE SPOKANE COUNTY STANDARDS (1999 EDITION) SHEET B-1a FOR INSTALLATION LOCATIONS.

6. ALL PONDS/SWALES WITHIN THE COUNTY RIGHT-OF-WAY, IN THE AREA ASSOCIATED WITH THIS PROJECT, SHALL BE COMPLETED DURING THE CONSTRUCTION OF THE ROADWAY. THE CONTRACTOR SHALL PERFORM THE POND GRADE WORK, INSTALL THE IRRIGATION SYSTEM, AND PLACE THE SOD WITHIN THE PONDS FOLLOWING THE ROAD PAVING WORK.

7. THE CONTRACTOR SHALL MAKE AN EFFORT TO PROTECT ALL DRAINAGE STRUCTURES FROM BEING CONTAMINATED WITH SILT BY INSTALLING FILTER FABRIC UNDER THE LID FOR AT LEAST 6 WEEKS, OR UNTIL THE ESTABLISHMENT OF GRASS AND/OR OTHER SITE CONSTRUCTION WORK HAS ENDED. IN THE EVENT THAT SILT OR OTHER DELETERIOUS MATERIAL IS ALLOWED TO ENTER THE DRYWELLS OR CATCH BASINS, THE CONTRACTOR WILL BE REQUIRED TO CLEAN THE DRYWELL OR CATCH BASIN OUT TO THE SATISFACTION OF THE CERTIFYING ENGINEER.

8. ALL LANDSCAPE AREAS (PONDS/SWALES) ARE TO BE IRRIGATED BY AN AN AUTOMATIC IRRIGATION SYSTEM INSTALLED BY OR UNDER THE DIRECTION OF THE LANDSCAPE CONTRACTOR. THE IRRIGATION SYSTEM SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES (90 DAY GUARANTEE). AN APPROVED BACKFLOW DEVICE SHALL BE INSTALLED TO PREVENT WATER FROM GOING BACK INTO THE WATER SUPPLY.

**SLEEVING:** PROVIDE SLEEVING AS REQUIRED UNDER SIDEWALKS, PATHS, CURBING, PAVING, ETC. AS NEEDED FOR IRRIGATION ACCESS. ALL SLEEVING TO BE 4" PVC. WITH AT LEAST 12" OF COVER (1) FOOT BELOW FINISH GRADE. THE OWNER/GENERAL CONTRACTOR IS RESPONSIBLE FOR INSTALLING SLEEVING BEFORE CURBING, SIDEWALKS, PAVING, ETC. IS INSTALLED. PATCH ASPHALT AS NEEDED.

**LAWN AREAS:** LAWN AREAS ARE TO BE IRRIGATED WITH TORO POP-UP HEADS OR EQUIVALENT. (TEST SYSTEM BEFORE BACKFILLING).

**ADJUSTMENT:** AFTER INSTALLATION, ADJUST VALVES, HEADS, EMITTERS, COVERAGE AND TO MINIMIZE OVER SPRAY ON WALLS, FENCES, WALKS, DRIVES, ETC.

**WATER POWER SUPPLY:** THE OWNER/ GENERAL CONTRACTOR IS TO SUPPLY WATER TAPS FOR HOOK-UP AND SUPPLY POWER FOR CONTROLLER.

9. THE FLOOR OF A GRASSED PERCOLATION AREA (GPA) SWALE INCLUDES THE LEVEL PORTION OF THE FLOOR OF THE SWALE, AND THE SIDESLOPES OF THE SWALE UP TO THE GPA OVERFLOW ELEVATION OR TOP OF DRYWELL. THE SOIL LOCATED IN THE FLOOR OF THE GPA SWALE SHALL BE A MEDIUM TO WELL-DRAINING MATERIAL, WITH A MINIMUM INFILTRATION RATE OF 0.5 INCHES PER HOUR. THE ENGINEER SHALL PROVIDE A WRITTEN STATEMENT WHICH VERIFIES THAT ALL GPA SWALES CONFORM TO THIS REQUIREMENT. THIS WRITTEN STATEMENT SHALL BE SUBMITTED TO THE SPOKANE COUNTY ENGINEER'S OFFICE PRIOR TO INSTALLING FINISHED LANDSCAPING/SOD AND PRIOR TO FINAL ACCEPTANCE, THE SWALE FLOOR MATERIAL SHALL BE INSTALLED TO A NATIVE SOIL STRATUM WHICH ALSO MEETS OR EXCEEDS THIS MINIMUM PERCOLATION RATE OF 0.5 INCHES PER HOUR.

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GRAPHIC SCALE
50 0 25 50 100
( IN FEET )
1 inch = 50 ft.

SPOKANE COUNTY PUBLIC WORKS
OFFICIAL PUBLIC DOCUMENT ORIGINAL
CONSTRUCTION PLANS
PROJECT #: P-25534
DATE ACCEPTED: 08-15-14
ACCEPTANCE EXPIRES: 08-15-16
PROJECTS LANE MILES: PUBLIC:
PROJECT LANE MILES PRIVATE: .15
CONSTRUCTION DOCUMENTATION AND CERTIFIED RECORD DRAWINGS, "AS-BUILTS" ARE REQUIRED PRIOR TO COUNTY ACCEPTANCE AND ESTABLISHMENT OF THE ROADS AND DRAINAGE FACILITIES FOR MAINTENANCE
PERMIT REQUIRED! (509) 477-3600
NOTIFY PERMIT ENGINEER 2 BUSINESS DAYS PRIOR TO CONSTRUCTION

TODD R. WHIPPLE
STATE OF WASHINGTON
25462
REGISTERED PROFESSIONAL ENGINEER
8/14/12

NAVD - 88
VERTICAL DATUM BASED ON FOUND TEMPORARY BENCH MAKR LOCATED AT (GENERAL LOCATION) 3.4 MILES NORTH OF THE JUNCTION OF SR 395 AND SR 002
TBM - (WSDOT BRASS DISK IN CONC. #GP32395-202 & 523.24 M - NAVD88 (CALCULATED 1716.67 FT).

| NO. | DATE | BY | REVISIONS |
|---|---|---|---|
| - | 07/21/14 | BNG | ORIGINAL PREPARATION |

SCALE:
HORIZONTAL: -
VERTICAL: -

PROJ #: 04-063F
DATE: 08/05/14
DRAWN: BNG
REVIEWED: TRW

X CIVIL
STRUCTURAL
SURVEYING
TRAFFIC
PLANNING
LANDSCAPE
OTHER

WCE
WHIPPLE CONSULTING ENGINEERS
2528 NORTH SULLIVAN ROAD
SPOKANE VALLEY, WA 99216
PH: 509-893-2617 FAX: 509-926-0227

# WINDSOR ESTATES PHASE 2B.1
# GENERAL NOTES & STREET SECTIONS
# HATCH ROAD & SILVER PINE ROAD
# SPOKANE COUNTY, WASHINGTON

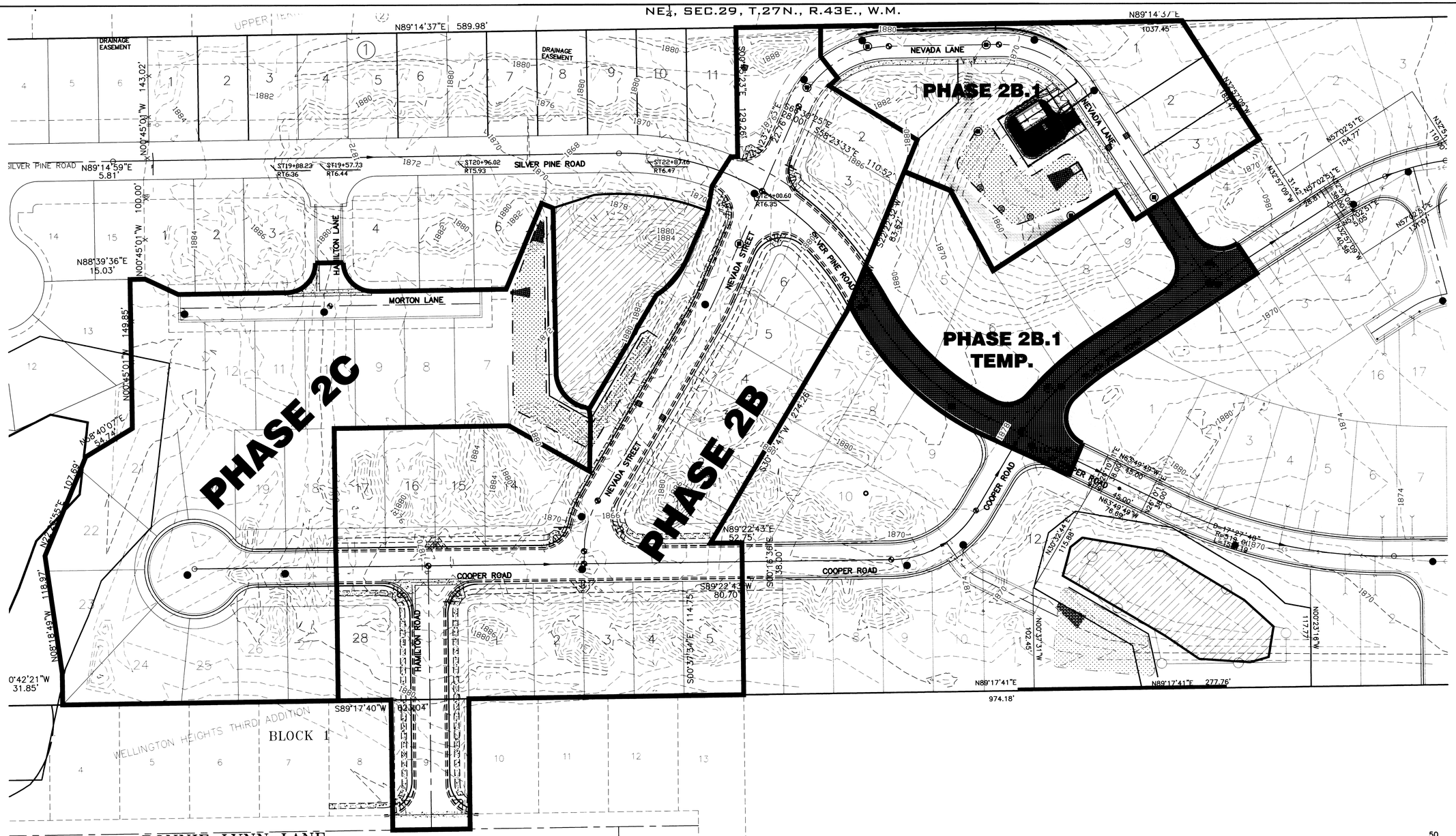
SHEET
0.1

JOB NUMBER
2004-063F

WORK\Land Projects 2005\04-63F Windsor Ph 2B\DWG\C0.1 NOTES.dwg, DESIGN, 8/14/2014 9:20:52 AM

NE¼, SEC.29, T.27N., R.43E., W.M.

UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
811
CALL TWO BUSINESS DAYS BEFORE YOU DIG




## PHASING PLAN

SCALE: 1"=50'

## PROJECT INTENT - PHASE 2B.1

THE INTENT OF THIS PROJECT IS TO BUILD OUT NEVADA LANE, FOUR LOTS, THE STORM DRAINAGE POND AND THE SANITARY SEWER LIFT STATION.

PHASE 2B.1 TEMP. WILL PROVIDE A TEMPORARY ROAD SURFACE ALONG FUTURE ROADWAY ALIGNMENTS TO MAINTAIN FIRE TURNAROUND.

ALL HANDI-CAP ROUTES OF TRAVEL, I.E. SIDEWALK, SIDEWALK RAMPS, CROSSWALKS, ETC. MUST BE BUILT WITH NO GREATER THAN 4% LONGITUDINAL SLOPE AND NO GREATER THAN 2% CROSS SLOPE AS REQUIRED PER ADA STANDARDS.

SPOKANE COUNTY PUBLIC WORKS
OFFICIAL PUBLIC DOCUMENT ORIGINAL
**CONSTRUCTION PLANS**
PROJECT #: P-7953A
DATE ACCEPTED: 08-15-14
ACCEPTANCE EXPIRES: 08-15-16
PROJECTS LANE MILES: PUBLIC: ___
PROJECT LANE MILES PRIVATE: .15
CONSTRUCTION DOCUMENTATION AND CERTIFIED RECORD DRAWINGS, "AS-BUILTS" ARE REQUIRED PRIOR TO COUNTY ACCEPTANCE AND ESTABLISHMENT OF THE ROADS AND DRAINAGE FACILITIES FOR MAINTENANCE
PERMIT REQUIRED! (509) 477-3600
NOTIFY PERMIT ENGINEER 2 BUSINESS DAYS PRIOR TO CONSTRUCTION

TODD R. WHIPPLE
STATE OF WASHINGTON
25462
REGISTERED PROFESSIONAL ENGINEER
8/14/14

NAVD - 88
VERTICAL DATUM BASED ON FOUND TEMPORARY BENCH MAKR LOCATED AT (GENERAL LOCATION) 3.4 MILES NORTH OF THE JUNCTION OF SR 395 AND SR 002
TBM - (WSDOT BRASS DISK IN CONC. #GP32395-202 & 523.24 M - NAVD88 (CALCULATED 1716.67 FT).

| NO. | DATE | BY | REVISIONS |
|---|---|---|---|
| - | 07/21/14 | BNG | ORIGINAL PREPARATION |

| SCALE: | | |
|---|---|---|
| HORIZONTAL: 1"= 50' | PROJ #: | 04-063F |
| VERTICAL: - | DATE: | 08/05/14 |
| | DRAWN: | BNG |
| | REVIEWED: | TRW |

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STRUCTURAL
SURVEYING
TRAFFIC
PLANNING
LANDSCAPE
OTHER

WCE
WHIPPLE CONSULTING ENGINEERS
2528 NORTH SULLIVAN ROAD
SPOKANE VALLEY, WA 99216
PH: 509-893-2617 FAX: 509-926-0227

**WINDSOR ESTATES PHASE 2B.1**
**PHASING PLAN**
**HATCH ROAD & SILVER PINE ROAD**
**SPOKANE COUNTY, WASHINGTON**

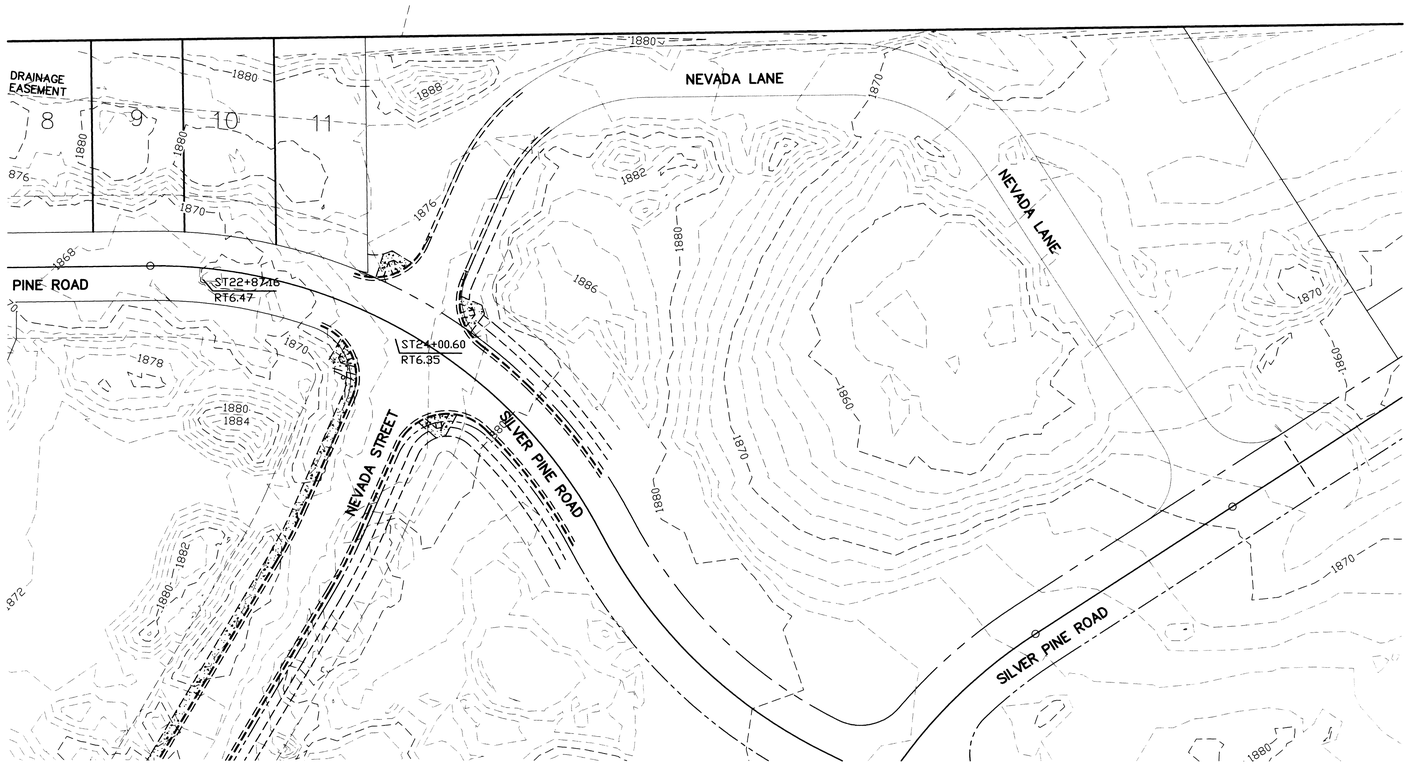
SHEET 0.2

JOB NUMBER 2004-063F

WORK\Land Projects 2005\04-63F Windsor Ph 2B\DWG\C0.2 - PHASE PLAN.dwg, PHASE PLAN, 8/14/2014 9:27:29 AM

NE¼, SEC.29, T.27N., R.43E., W.M.

UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
811
CALL TWO BUSINESS DAYS BEFORE YOU DIG




## SITE TOPOGRAPHY

SCALE: H,V: 1"=40'

# LEGEND

| EXISTING | DESCRIPTION | PROPOSED |
|---|---|---|
| | ROADWAY CENTER LINE | |
| | RIGHT OF WAY LINE | |
| | PROPERTY LINE | |
| | EASEMENT LINE | |
| x x | FENCE | x x |
| | CURB | |
| | PAVEMENT | |
| | GRAVEL | |
| | CONCRETE | |
| | BUILDINGS & STRUCTURES | |
| | MONUMENT | |
| | **SEWER** | |
| | SANITARY SEWER | |
| | MANHOLE | |
| | CLEANOUT | |
| | SEWER SERVICE | |
| | **WATER** | |
| | WATER LINE | |
| V | VALVE | V |
| FH | FIRE HYDRANT | FH |
| WS | SERVICE | WS |
| WM | METER | WM |
| BLOWOFF | BLOWOFF | BLOWOFF |
| AVRS | AIR VACUUM RELIEF STATION | AVRS |
| | **DRAINAGE** | |
| MH | DRAINAGE LINE | MH |
| DW | MANHOLE | DW |
| CB | DRYWELL | CB |
| | CATCH BASIN | |
| | DITCH | |
| | **GAS** | |
| G | GAS LINE | G |
| V | VALVE | V |
| GM | METER | GM |
| | **TELE-POWER** | |
| BT | BURIED TELEPHONE | BT |
| PP | POWER OR TELEPHONE POLE | |
| BP | BURIED POWER | BP |
| TP | TRANSFORMER PAD | TP |
| TR | TELEPHONE RISER | TR |
| TV | TELEPHONE VAULT | TV |
| OP | OVERHEAD POWER | OH |
| GA | GUY ANCHOR | GA |
| PV | POWER VAULT | PV |
| LP | LIGHT POLE | LP |

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GRAPHIC SCALE
40 0 20 40 80
( IN FEET )
1 inch = 40 ft.

## ABBREVIATIONS

| | | | | | |
|---|---|---|---|---|---|
| ACT. LEN. | ACTUAL LENGTH | GB | GRADE BREAK | PRC | POINT OF REVERSE CURVE |
| BCR | BEGINNING OF CURVE RADIUS | FT./FT. | FEET PER FOOT | PT | POINT OF TANGENCY |
| BDRY. | BOUNDARY | HYD. | HYDRANT | RIM EL. | RIM ELEVATION |
| CO. | SEWER CLEANOUT | I.E. | INVERT ELEVATION | RD | ROAD |
| CSTC | CRUSHED SURFACE TOP COURSE | LN. | LANE | RT. | RIGHT |
| CT. | COURT | LT. | LEFT | SI | STREET INTERSECTION |
| DIA. | DIAMETER | MH | MANHOLE | SS | SANITARY SEWER |
| ECR | END OF CURVE RADIUS | MCR | MIDDLE OF CURVE RADIUS | STA. | STATION |
| EXIST. | EXISTING | PC | POINT OF CURVATURE | STA. LEN. | STATION LENGTH |
| G | GRADE | PET. | PETROLEUM | TG | TOP OF GRATE |
| | | PI | POINT OF INTERSECTION | TC | TOP OF CURB |

FOR REFERENCE ONLY

NAVD - 88

VERTICAL DATUM BASED ON FOUND TEMPORARY BENCH MAKR LOCATED AT (GENERAL LOCATION) 3.4 MILES NORTH OF THE JUNCTION OF SR 395 AND SR 002 TBM - (WSDOT BRASS DISK IN CONC. #GP32395-202 & 523.24 M - NAVD88 (CALCULATED 1716.67 FT).

| NO. | DATE | BY | REVISIONS |
|---|---|---|---|
| - | 07/21/14 | BNG | ORIGINAL PREPARATION |

| SCALE: | |
|---|---|
| HORIZONTAL: | 1"=40' |
| VERTICAL: | 1"=40' |

| | |
|---|---|
| PROJ #: | 04-063F |
| DATE: | 08/05/14 |
| DRAWN: | BNG |
| REVIEWED: | TRW |

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STRUCTURAL
SURVEYING
TRAFFIC
PLANNING
LANDSCAPE
OTHER

WCE
WHIPPLE CONSULTING ENGINEERS
2528 NORTH SULLIVAN ROAD
SPOKANE VALLEY, WA 99216
PH: 509-893-2617 FAX: 509-926-0227

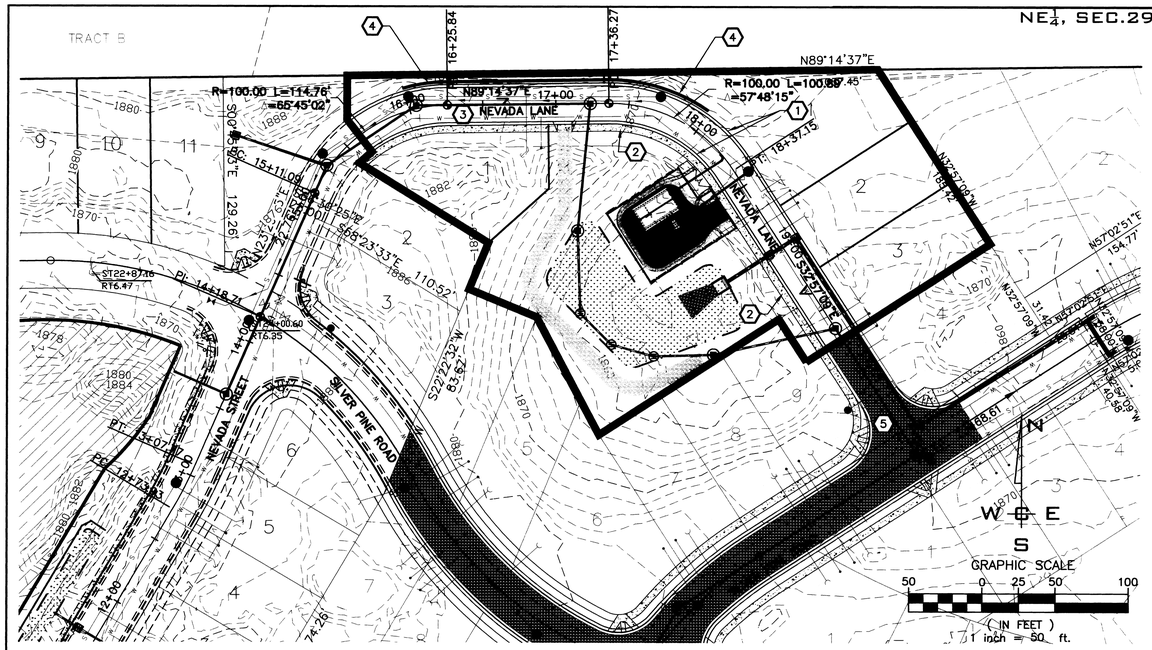
**WINDSOR ESTATES PHASE 2B.1**
**TOPOGRAPHIC SURVEY**
**HATCH ROAD & SILVER PINE ROAD**
**SPOKANE COUNTY, WASHINGTON**

SHEET
1.0

JOB NUMBER
2004-063F

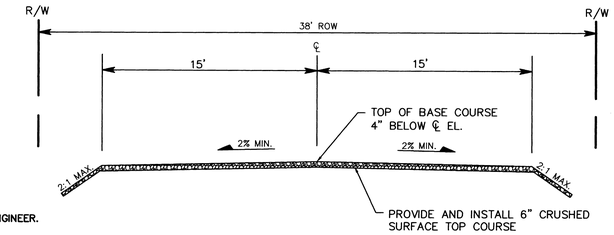
WORK\Land Projects 2005\04-63F Windsor Ph 2B\DWG\C1.0 TOPO.dwg, DESIGN, 8/14/2014 9:37:17 AM

NE¼, SEC.29, T.27N., R.43E., W.M.




## CONSTRUCTION NOTES

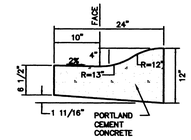
1. PROVIDE AND INSTALL "R" TYPE CURB PER DETAIL 1, THIS SHEET.
2. PROVIDE AND INSTALL 5' CONCRETE SIDEWALK PER SPOKANE COUNTY STANDARD PLAN A-1.
3. PROVIDE AND INSTALL PAVEMENT PER SECTION, DETAIL A.
4. PROVIDE AND INSTALL 4' ROCK RETAINING WALL PER GEOTECHNICAL ENGINEER.
5. PROVIDE AND INSTALL TEMPORARY ROAD PER ROAD SECTION DETAIL B




## TEMPORARY ROAD TYPICAL SECTION

NOT TO SCALE

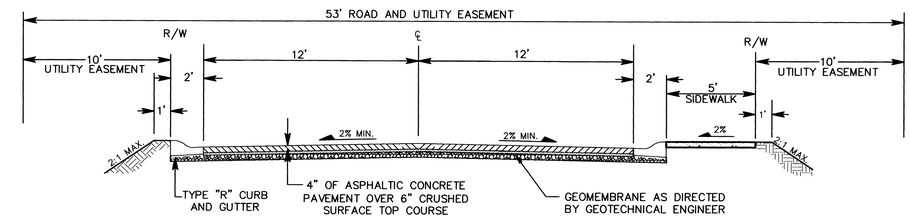
B - 




## TYPE "R" CURB

NOT TO SCALE

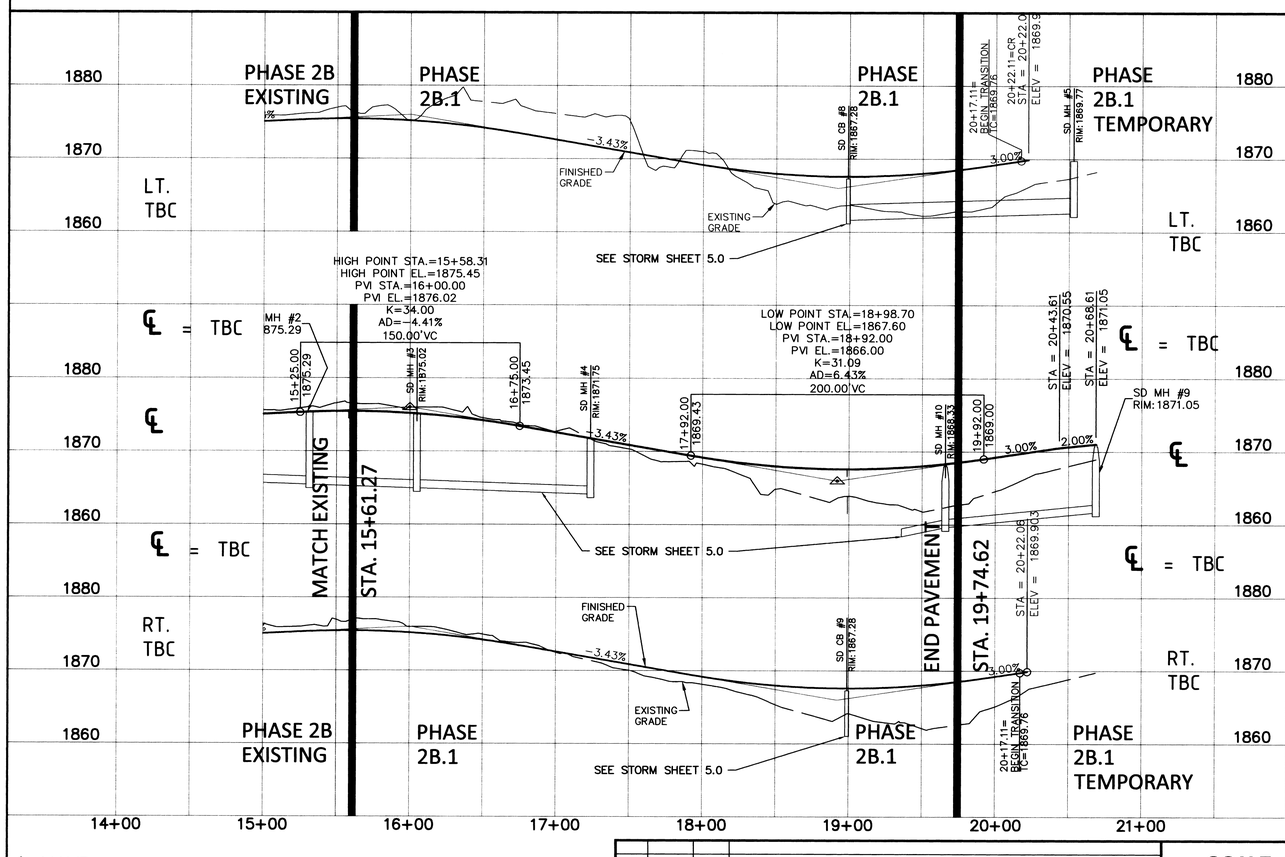
1 - 




## NEVADA LANE TYPICAL SECTION

NOT TO SCALE

A - 




NAVD - 88

VERTICAL DATUM BASED ON FOUND TEMPORARY BENCH MAKR LOCATED AT (GENERAL LOCATION) 3.4 MILES NORTH OF THE JUNCTION OF SR 395 AND SR 002 TBM - (WSDOT BRASS DISK IN CONC. #GP32395-202 & 523.24 M - NAVD88 (CALCULATED 1716.67 FT).

| NO. | DATE | BY | REVISIONS |
|---|---|---|---|
| - | 07/21/14 | BNG | ORIGINAL PREPARATION |

| SCALE: | |
|---|---|
| HORIZONTAL: | 1"=50' |
| VERTICAL: | 1"=10' |

| | |
|---|---|
| PROJ #: | 04-063F |
| DATE: | 08/05/14 |
| DRAWN: | BNG |
| REVIEWED: | TRW |

X CIVIL
STRUCTURAL
SURVEYING
TRAFFIC
PLANNING
LANDSCAPE
OTHER


WCE
WHIPPLE CONSULTING ENGINEERS
2528 NORTH SULLIVAN ROAD
SPOKANE VALLEY, WA 99216
PH: 509-893-2617 FAX: 509-926-0227


# WINDSOR ESTATES PHASE 2B.1
## NEVADA LN STA. 15+61 TO STA. 19+74
## HATCH ROAD & SILVER PINE ROAD
## SPOKANE COUNTY, WASHINGTON

SPOKANE COUNTY PUBLIC WORKS
OFFICIAL PUBLIC DOCUMENT ORIGINAL
CONSTRUCTION PLANS
PROJECT #: P-19533A
DATE ACCEPTED: 08-15-14
ACCEPTANCE EXPIRES: 08-15-16
PROJECTS LANE MILES: PUBLIC:
PROJECT LANE MILES PRIVATE: .15
CONSTRUCTION DOCUMENTATION AND CERTIFIED RECORD DRAWINGS, "AS-BUILTS" ARE REQUIRED PRIOR TO COUNTY ACCEPTANCE AND ESTABLISHMENT OF THE ROADS AND DRAINAGE FACILITIES FOR MAINTENANCE
PERMIT REQUIRED! (509) 477-3600
NOTIFY PERMIT ENGINEER 2 BUSINESS DAYS PRIOR TO CONSTRUCTION

TODD R. WHIPPLE
STATE OF WASHINGTON
25462
REGISTERED PROFESSIONAL ENGINEER
08/14/14

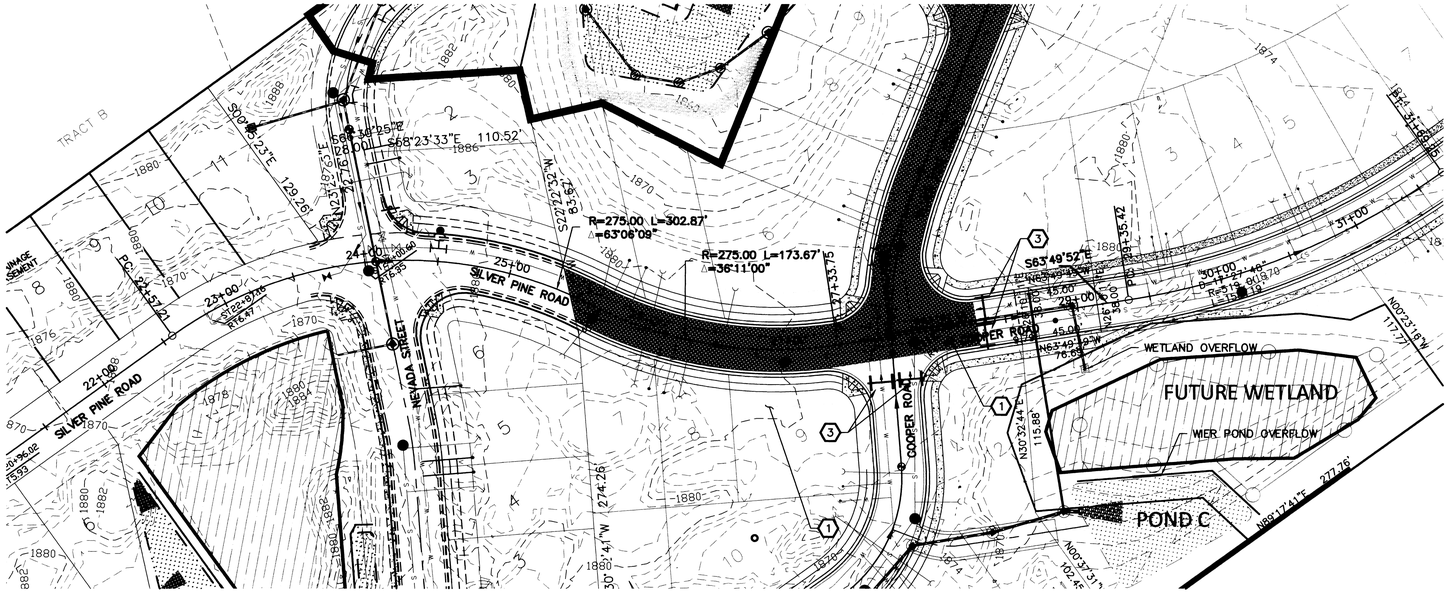
SHEET
C3.0

JOB NUMBER
2004-063F

W:\WORK\Land Projects 2005\04-63F Windsor Ph 2B\DWG\C3.0 NEVADA LANE PLAN & PROFILE.dwg, SHT 3.0 NEVADA LANE, 8/14/2014 9:49:06 AM

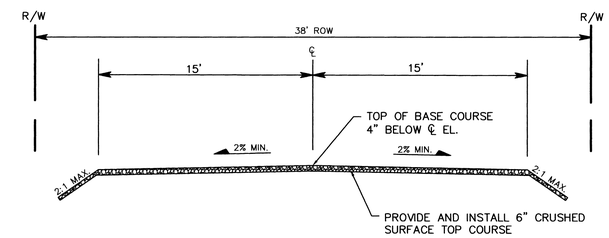
NE¼, SEC.29, T.27N., R.43E., W.M.

UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
811
CALL TWO BUSINESS DAYS BEFORE YOU DIG




## CONSTRUCTION NOTES

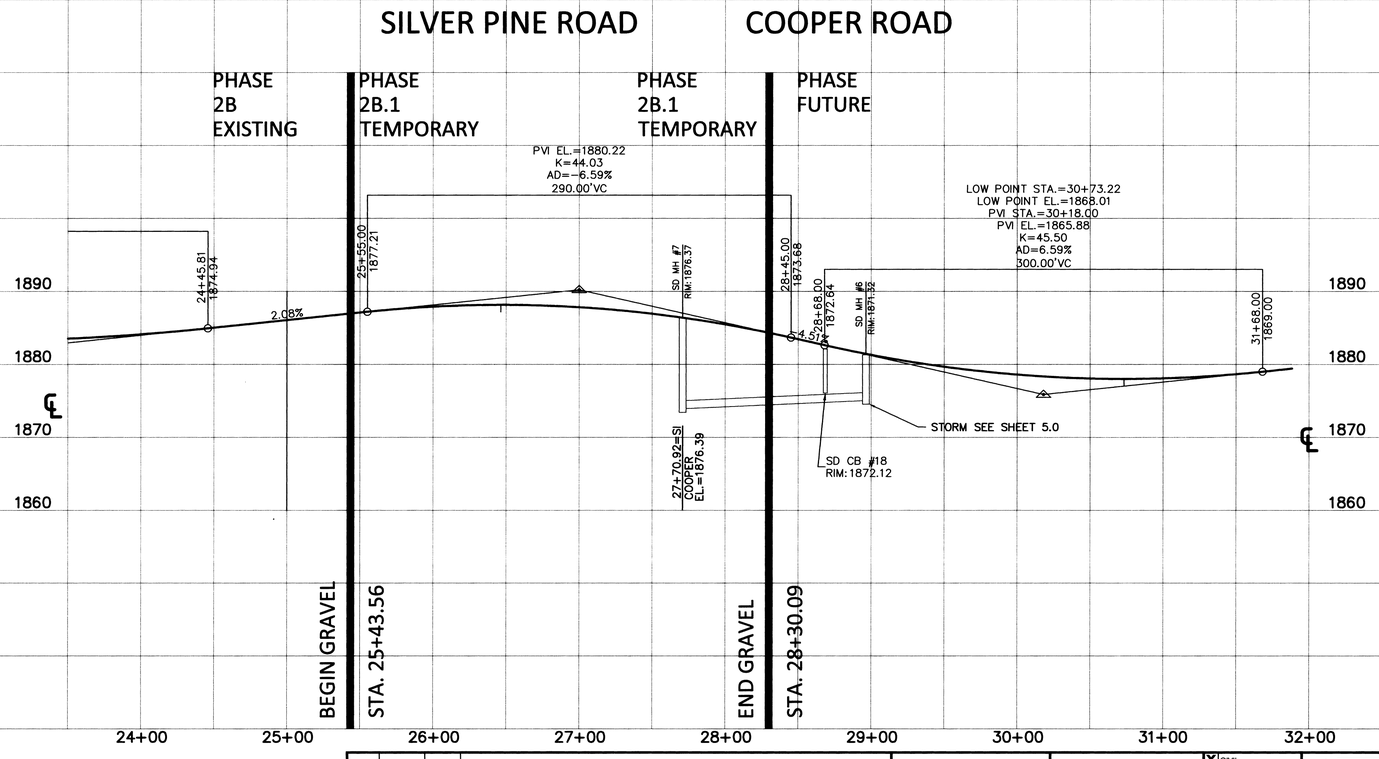
1. PROVIDE AND INSTALL TEMPORARY ROAD PER ROAD SECTION THIS SHEET.
2. NOT USED.
3. PROVIDE AND INSTALL TYPE 3 BARRICADE PER WSDOT STANDARDS.




## TEMPORARY ROAD TYPICAL SECTION

NOT TO SCALE

A
-

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W E
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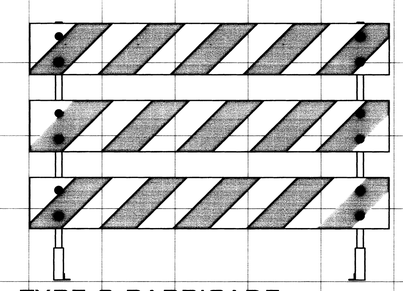
GRAPHIC SCALE
50 0 25 50 100
( IN FEET )
1 inch = 50 ft.



## TYPE 3 BARRICADE

SPOKANE COUNTY PUBLIC WORKS
OFFICIAL PUBLIC DOCUMENT ORIGINAL
CONSTRUCTION PLANS
PROJECT #: P-1953A
DATE ACCEPTED: 08-15-14
ACCEPTANCE EXPIRES: 08-15-16
PROJECTS LANE MILES: PUBLIC:
PROJECT LANE MILES PRIVATE: .15
CONSTRUCTION DOCUMENTATION AND CERTIFIED RECORD DRAWINGS, "AS-BUILTS" ARE REQUIRED PRIOR TO COUNTY ACCEPTANCE AND ESTABLISHMENT OF THE ROADS AND DRAINAGE FACILITIES FOR MAINTENANCE
PERMIT REQUIRED! (509) 477-3600
NOTIFY PERMIT ENGINEER 2 BUSINESS DAYS PRIOR TO CONSTRUCTION

TODD R. WHIPPLE
STATE OF WASHINGTON
25462
REGISTERED PROFESSIONAL ENGINEER
8/14/14

NAVD - 88
VERTICAL DATUM BASED ON FOUND TEMPORARY BENCH MAKR LOCATED AT (GENERAL LOCATION) 3.4 MILES NORTH OF THE JUNCTION OF SR 395 AND SR 002 TBM - (WSDOT BRASS DISK IN CONC. #GP32395-202 & 523.24 M - NAVD88 (CALCULATED 1716.67 FT).

| NO. | DATE | BY | REVISIONS |
|---|---|---|---|
| - | 07/21/14 | BNG | ORIGINAL PREPARATION |

SCALE:
HORIZONTAL: 1"=50'
VERTICAL: 1"=10'

PROJ #: 04-063F
DATE: 08/05/14
DRAWN: BNG
REVIEWED: TRW

X CIVIL
STRUCTURAL
SURVEYING
TRAFFIC
PLANNING
LANDSCAPE
OTHER

WCE
WHIPPLE CONSULTING ENGINEERS
2528 NORTH SULLIVAN ROAD
SPOKANE VALLEY, WA 99216
PH: 509-893-2617 FAX: 509-926-0227

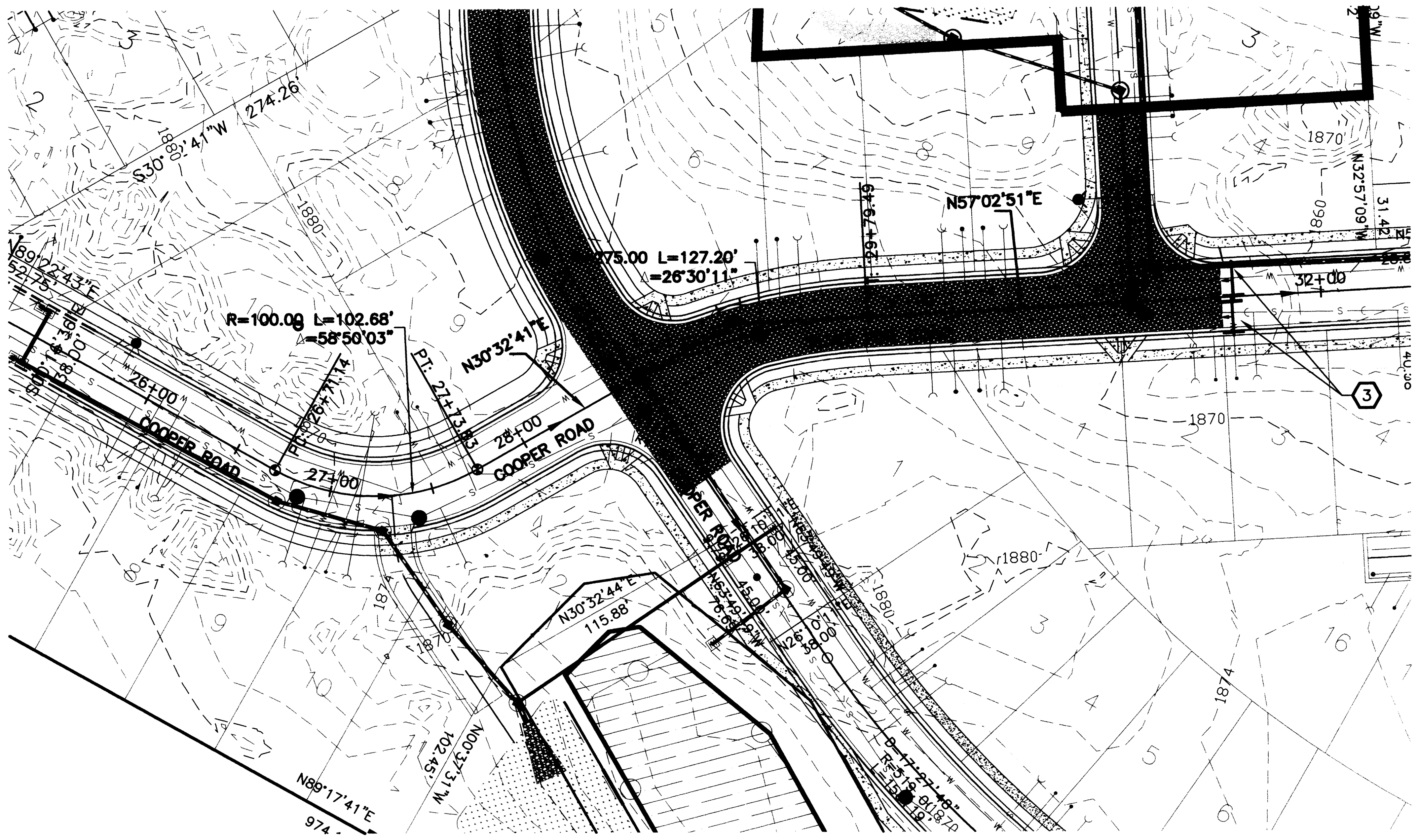
**WINDSOR ESTATES PHASE 2B.1**
**SILVER PINE STA. 25+43 TO STA. 28+30**
**HATCH ROAD & SILVER PINE ROAD**
**SPOKANE COUNTY, WASHINGTON**

SHEET
3.1
JOB NUMBER
2004-063F

WORK\Land Projects 2005\04-63F Windsor Ph 2B\DWG\C3.1 SILVER PINE ROAD PLAN & PROFILE.dwg, SHT 3.1 SILVER PINE, 8/14/2014 9:50:29 AM

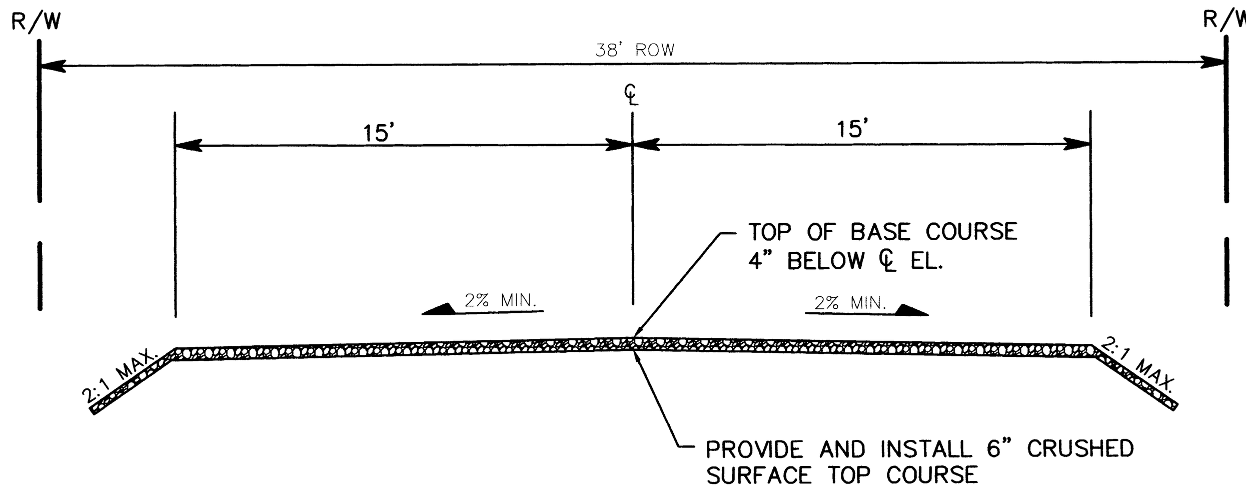
NE¼, SEC.29, T.27N., R.43E., W.M.

UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
811
CALL TWO BUSINESS DAYS BEFORE YOU DIG




## CONSTRUCTION NOTES

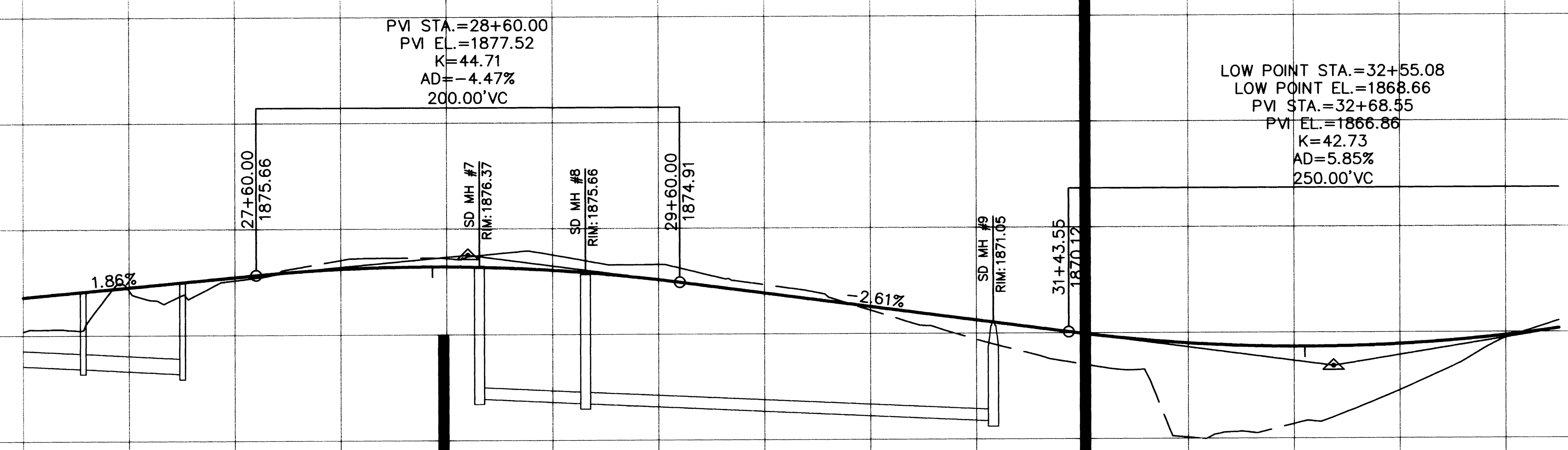
1. PROVIDE AND INSTALL TEMPORARY ROAD PER ROAD SECTION THIS SHEET.
2. NOT USED.
3. PROVIDE AND INSTALL TYPE 3 BARRICADE PER WSDOT STANDARDS.




## TEMPORARY ROAD TYPICAL SECTION

NOT TO SCALE

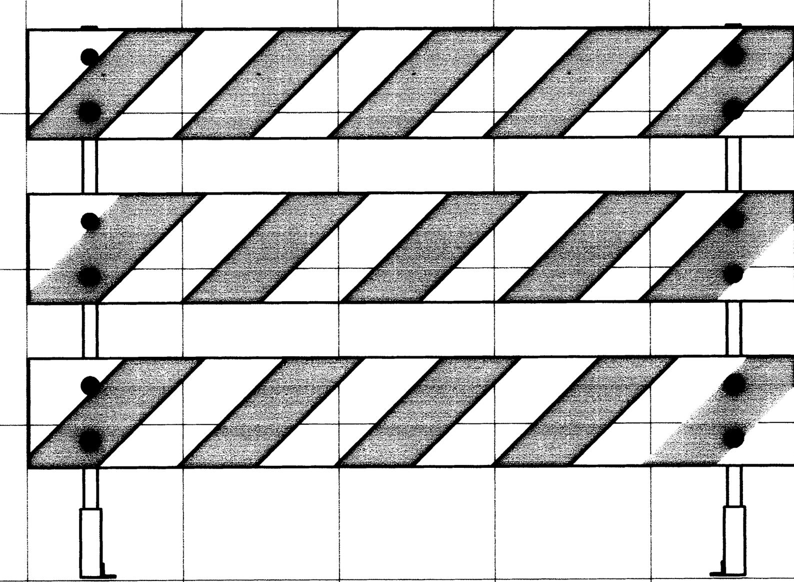
A / -




N / W E / S

GRAPHIC SCALE
50 0 25 50 100
( IN FEET )
1 inch = 50 ft.

2450
2440
2430
2420
2410
2400



TYPE 3 BARRICADE

SPOKANE COUNTY PUBLIC WORKS
OFFICIAL PUBLIC DOCUMENT ORIGINAL
**CONSTRUCTION PLANS**
PROJECT #: P-1953A
DATE ACCEPTED: 08-15-14
ACCEPTANCE EXPIRES: 08-15-16
PROJECTS LANE MILES: PUBLIC: ____
PROJECT LANE MILES PRIVATE: .15
CONSTRUCTION DOCUMENTATION AND CERTIFIED RECORD DRAWINGS, "AS-BUILTS" ARE REQUIRED PRIOR TO COUNTY ACCEPTANCE AND ESTABLISHMENT OF THE ROADS AND DRAINAGE FACILITIES FOR MAINTENANCE
PERMIT REQUIRED! (509) 477-3600
NOTIFY PERMIT ENGINEER 2 BUSINESS DAYS PRIOR TO CONSTRUCTION

TODD R. WHIPPLE, STATE OF WASHINGTON, 25462, REGISTERED PROFESSIONAL ENGINEER, 8/14/14

NAVD - 88
VERTICAL DATUM BASED ON FOUND TEMPORARY BENCH MAKR LOCATED AT (GENERAL LOCATION) 3.4 MILES NORTH OF THE JUNCTION OF SR 395 AND SR 002
TBM - (WSDOT BRASS DISK IN CONC. #GP32395-202 & 523.24 M - NAVD88 (CALCULATED 1716.67 FT).

| NO. | DATE | BY | REVISIONS |
|---|---|---|---|
| - | 07/21/14 | BNG | ORIGINAL PREPARATION |

**SCALE:**
HORIZONTAL: 1"= 50'
VERTICAL: 1"=10'

| | |
|---|---|
| PROJ #: | 04-063F |
| DATE: | 08/05/14 |
| DRAWN: | BNG |
| REVIEWED: | TRW |

| | |
|---|---|
| X | CIVIL |
| | STRUCTURAL |
| | SURVEYING |
| | TRAFFIC |
| | PLANNING |
| | LANDSCAPE |
| | OTHER |

WCE
WHIPPLE CONSULTING ENGINEERS
2528 NORTH SULLIVAN ROAD
SPOKANE VALLEY, WA 99216
PH: 509-893-2617 FAX: 509-926-0227

**WINDSOR ESTATES PHASE 2B.1**
**SILVER PINE STA. 28+48 TO STA. 31+51**
**HATCH ROAD & SILVER PINE ROAD**
**SPOKANE COUNTY, WASHINGTON**

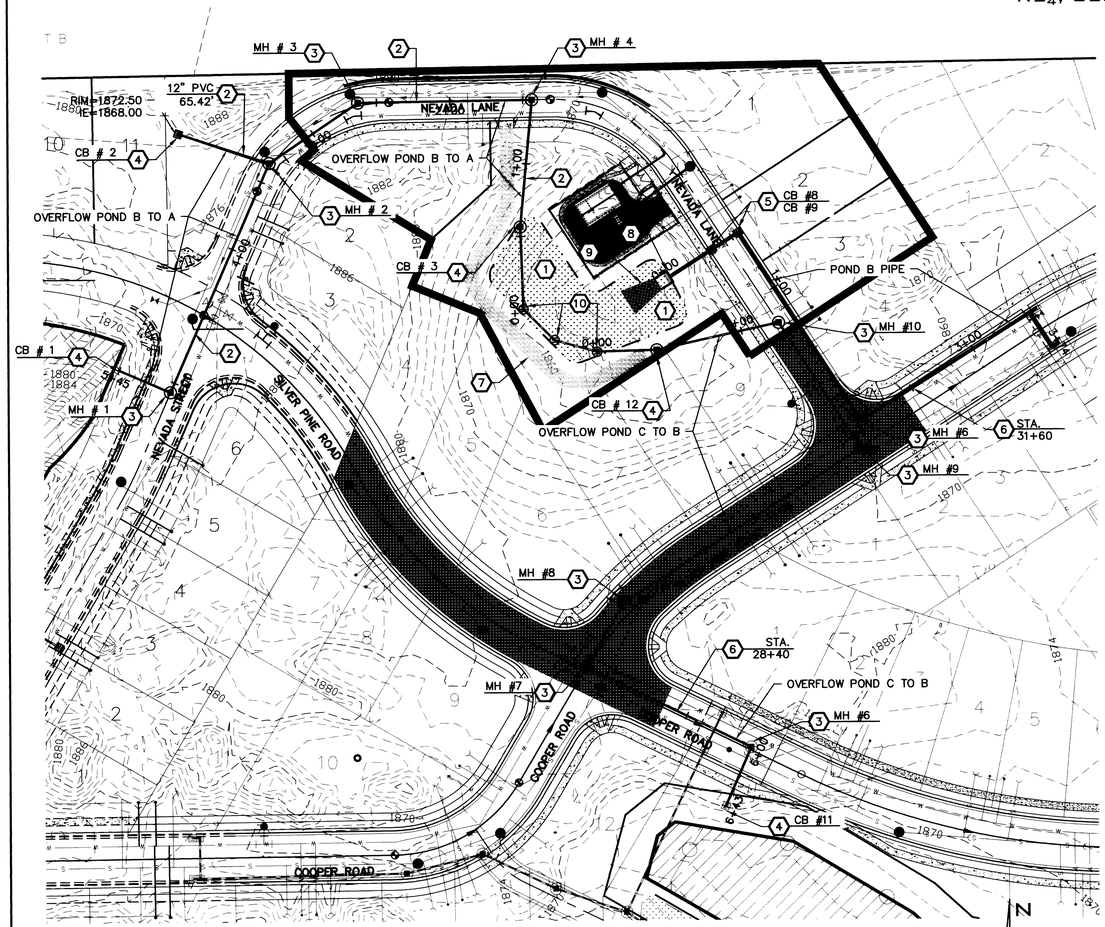
**SHEET C3.2**

JOB NUMBER
**2004-063F**

WORK\Land Projects 2005\04-63F Windsor Ph 2B\DWG\C3.2 COOPER ROAD PLAN & PROFILE.dwg, Sheet 3.2, 8/14/2014 9:58:23 AM

NE¼, SEC.29, T.27N., R.43E., W.M.

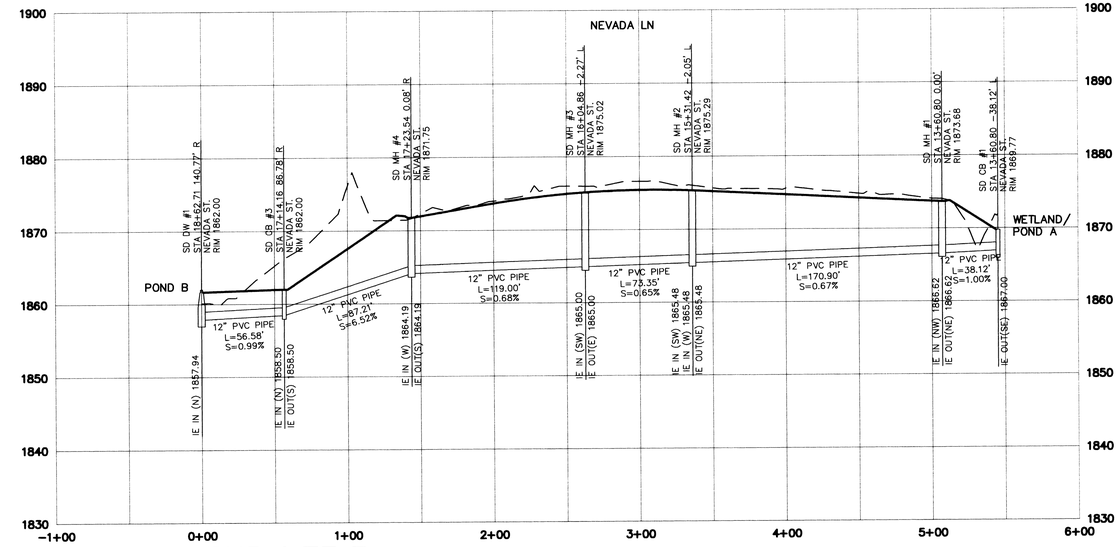
UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
811
CALL TWO BUSINESS DAYS BEFORE YOU DIG




## SITE PLAN

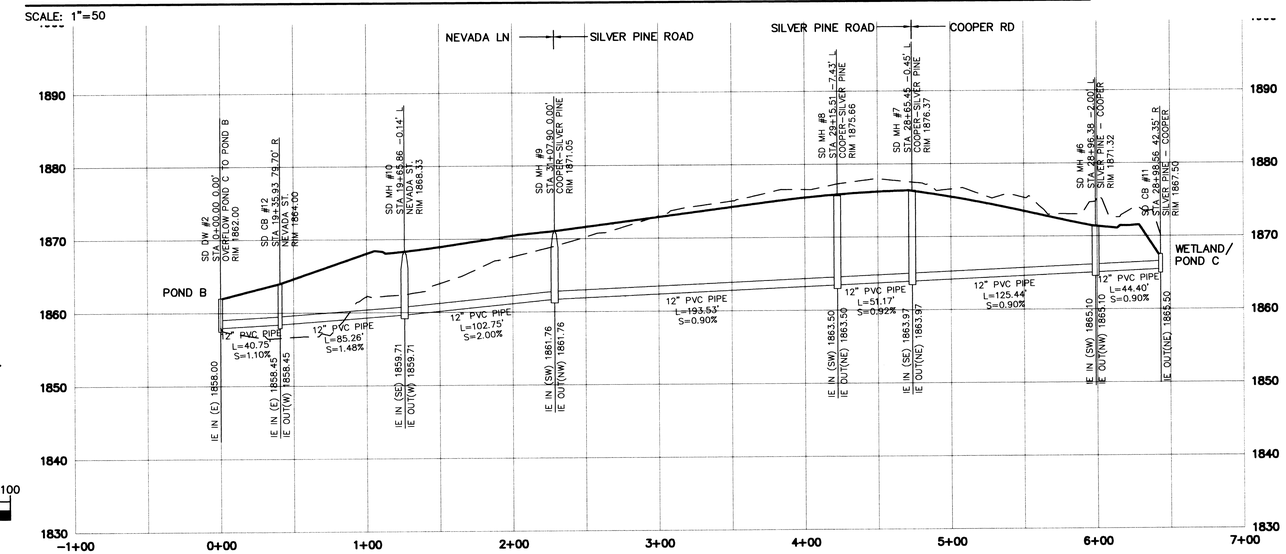
SCALE: 1"=50

GRAPHIC SCALE
50 0 25 50 100
( IN FEET )
1 inch = 50 ft.



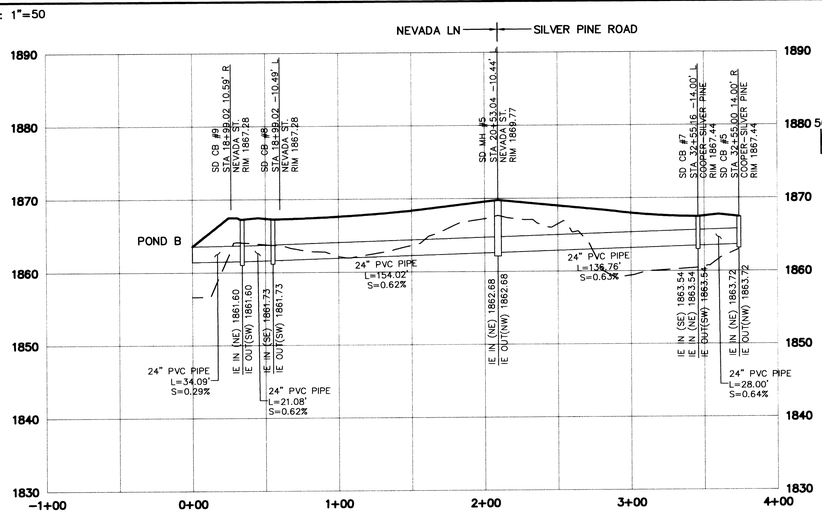

## OVERFLOW POND A TO B

SCALE: 1"=50




## OVERFLOW POND C TO B

SCALE: 1"=50




## POND B PIPE NETWORK

SCALE: 1"=50

## CONSTRUCTION NOTES

1. CONSTRUCT DETENTION POND PER DETAILS, SHEET C5.1.
2. PROVIDE AND INSTALL PVC ASTM D-3034 SDR35 STORM PIPE. SIZE PER PLAN AND PROFILE, THIS SHEET. TRENCH AND BEDDING PER SPOKANE COUNTY STANDARD SPECIFICATIONS.
3. PROVIDE AND INSTALL TYPE 1-48 MANHOLE PER SPOKANE COUNTY STANDARD PLAN U-2, WITH TYPE 4 FRAME AND SOLID COVER MARKED "STORM" PER SPOKANE COUNTY STANDARD PLAN B-15. SEE PROFILE FOR RIM ELEVATIONS
4. PROVIDE AND INSTALL TYPE 1 CATCH BASIN PER SPOKANE COUNTY STANDARD PLAN B-4. WITH TYPE 1 METAL FRAME PER SPOKANE STANDARD PLAN B-10 AND TYPE 1 METAL GRATE PER SPOKANE COUNTY STANDARD PLAN B-12.
5. PROVIDE AND INSTALL WSDOT TYPE 2 CATCH BASIN PER WSDOT STANDARD PLAN B-1E
6. END PIPE AT STA. COVER END OF PIPE WITH PLYWOOD AND PROVIDE 2X4 MARKER BOARD FROM INVERT TO ABOVE GRADE.
7. PROVIDE AND INSTALL ACCESS ROAD FOR MAINTENANCE OF CATCH BASINS AND DRYWELLS.
8. PROVIDE AND INSTALL CONCRETE HEADWALL WITH TRASH RACK PER DETAIL 4 SHEET 5.1
9. PROVIDE AND INSTALL RIP RAP PAD PER DIMENSIONS AND DETAIL 3 SHEET 5.1
10. PROVIDE NEW FABRIC OVER EXISTING DRYWELLS, CLEAN AND REPAIR DRYWELLS AS NEEDED PER SPOKANE COUNTY ENGINEERING AND ROADS

SPOKANE COUNTY PUBLIC WORKS
OFFICIAL PUBLIC DOCUMENT ORIGINAL
CONSTRUCTION PLANS
PROJECT #: 1-1453A
DATE ACCEPTED: 08-15-14
ACCEPTANCE EXPIRES: 08-15-16
PROJECTS LANE MILES: PUBLIC:
PROJECT LANE MILES PRIVATE: .15
CONSTRUCTION DOCUMENTATION AND CERTIFIED RECORD DRAWINGS, "AS-BUILTS" ARE REQUIRED PRIOR TO COUNTY ACCEPTANCE AND ESTABLISHMENT OF THE ROADS AND DRAINAGE FACILITIES FOR MAINTENANCE
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TODD R. WHIPPLE
STATE OF WASHINGTON
25462
REGISTERED PROFESSIONAL ENGINEER
8/14/14

NAVD - 88
VERTICAL DATUM BASED ON FOUND TEMPORARY BENCH MAKR LOCATED AT (GENERAL LOCATION) 3.4 MILES NORTH OF THE JUNCTION OF SR 395 AND SR 002
TBM - (WSDOT BRASS DISK IN CONC. #GP32395-202 & 523.24 M - NAVD88 (CALCULATED 1716.67 FT).

| NO. | DATE | BY | REVISIONS |
|---|---|---|---|
| - | 07/21/14 | BNG | ORIGINAL PREPARATION |

| SCALE: | |
|---|---|
| HORIZONTAL: | 1"=50' |
| VERTICAL: | 1"=10' |

| | |
|---|---|
| PROJ #: | 04-063F |
| DATE: | 08/05/14 |
| DRAWN: | BNG |
| REVIEWED: | TRW |

X CIVIL
STRUCTURAL
SURVEYING
TRAFFIC
PLANNING
LANDSCAPE
OTHER


WCE
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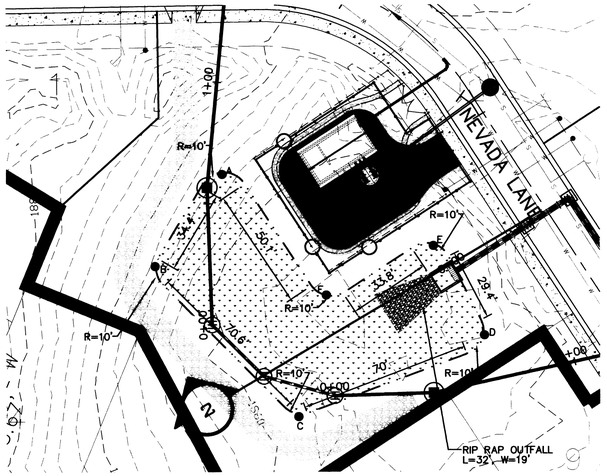
# WINDSOR ESTATES PHASE 2B.1
# STORM DRAINAGE PLAN & PROFILE
# HATCH ROAD & SILVER PINE ROAD
# SPOKANE COUNTY, WASHINGTON

SHEET
5.0

JOB NUMBER
2004-063F


WORK\Land Projects 2005\04-63F Windsor Ph 2B\DWG\C5.0 DRAINAGE PLAN & PROFILE.dwg, DESIGN, 8/14/2014 10:16:54 AM

UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
811
CALL TWO BUSINESS DAYS BEFORE YOU DIG




| POND B | |
|---|---|
| POND BOTTOM ELEV = | 1861.50 |
| 208 AREA REQD = | 6,087 SF |
| 208 AREA PROV = | 6,743 SF |
| POND VOL REQD = | 16,834 CF |
| POND VOL PROV = | 23,600 CF |

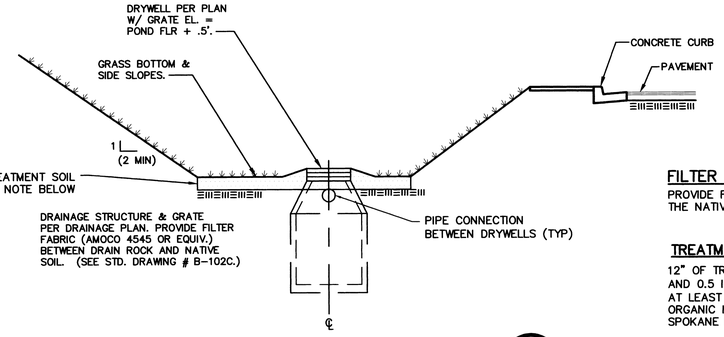
POND CORNER LOCATIONS (OFFSET FROM NEVADA LANE)

| CORNER | STATION | OFFSET DISTANCE | DISTANCE BETWEEN CORNERS |
|---|---|---|---|
| A | 17+20.60 | 80.75' RT | |
| B | 16+91.23 | 118.33' RT | 34.40' |
| C | 19+10.41 | 132.58' RT | 70.60' |
| D | 19+26.92 | 48.92' RT | 70.00' |
| E | 18+86.53 | 45.60' RT | 29.00' |
| F | 18+78.85 | 92.30' RT | 33.80' |
| | | | (A-F) 50.10' |

## POND B DETAIL
1"=30'

1 -

N
W E
S
GRAPHIC SCALE
30 0 15 30 60
( IN FEET )
1 inch = 30 ft.



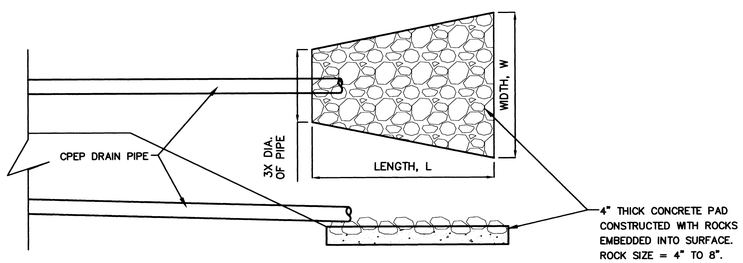

## POND B SECTION
NOT TO SCALE

2 -

### FILTER FABRIC NOTE:
PROVIDE FILTER FABRIC (AMOCO 4545 OR EQUAL) BETWEEN THE NATIVE SOIL AND THE WASHED DRAIN ROCK.

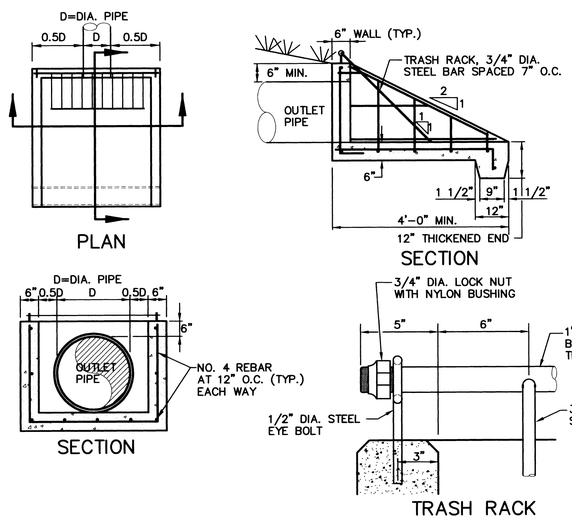
### TREATMENT SOIL NOTE:
12" OF TREATMENT SOIL WITH AN INFILTRATIVE RATE BETWEEN 0.25 AND 0.5 INCHES/HOUR AND AVERAGE CATION EXCHANGE CAPACITY OF AT LEAST 15 MILLIQUIVELENTS/100 GRAMS OR AT LEAST 2% OF ORGANIC MATTER BY WEIGHT. SEE TABLE 6-1, PG. 6-16 OF THE SPOKANE REGIONAL STORMWATER MANUAL

WARNING – THE USE OF SILTY LOAM IS PROHIBITED AS POND BOTTOM MATERIAL.



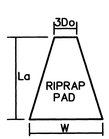

## RIP RAP OUTFALL
NOT TO SCALE

3 -




## CONCRETE HEADWALL WITH TRASH RACK
NOT TO SCALE

4 -




**NOTE:**
RIPRAP PAD MUST BE INSTALLED WITH FILTER FABRIC (AMOCO OR EQUAL) BETWEEN THE NATIVE SOIL AND THE WASHED DRAIN ROCK.

RIPRAP PAD DIMENSIONS

| PAD | 3Do | La | W | STONE SIZE | THICK. |
|---|---|---|---|---|---|
| B | 6.0' | 32.0' | 19.0' | 4" MIN. | 4" |

## TYPICAL RIPRAP PAD
NOT TO SCALE

? -

SPOKANE COUNTY PUBLIC WORKS
OFFICIAL PUBLIC DOCUMENT ORIGINAL
**CONSTRUCTION PLANS**
PROJECT #: P-1953A
DATE ACCEPTED: 08-15-14
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PROJECTS LANE MILES: PUBLIC:
PROJECT LANE MILES PRIVATE: .15
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| NO. | DATE | BY | REVISIONS |
|---|---|---|---|
| - | 07/21/14 | BNG | ORIGINAL PREPARATION |

| SCALE: | |
|---|---|
| HORIZONTAL: | 1"=30' |
| VERTICAL: | - |

| | |
|---|---|
| PROJ #: | 04-063F |
| DATE: | 08/05/14 |
| DRAWN: | BNG |
| REVIEWED: | TRW |

- [X] CIVIL
- [ ] STRUCTURAL
- [ ] SURVEYING
- [ ] TRAFFIC
- [ ] PLANNING
- [ ] LANDSCAPE
- [ ] OTHER

WCE
WHIPPLE CONSULTING ENGINEERS
2528 NORTH SULLIVAN ROAD
SPOKANE VALLEY, WA 99216
PH: 509-893-2617 FAX: 509-926-0227

# WINDSOR ESTATES PHASE 2B.1
# STORM DRAINAGE POND & DETAIL
# HATCH ROAD & SILVER PINE ROAD
# SPOKANE COUNTY, WASHINGTON

SHEET
5.1

JOB NUMBER
2004-063F

W:\WORK\Land Projects 2005\04-63F Windsor Ph 2B\DWG\C5.1 DRAINAGE POND & DETAILS.dwg, DESIGN, 8/14/2014 10:17:59 AM

NE¼, SEC.29, T.27N., R.43E., W.M.

# SWPPP/EROSION CONTROL PLAN

## WINDSOR ESTATES PHASE 2B.1

## NORTH HATCH ROAD

## SPOKANE COUNTY, WASHINGTON

UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
811
CALL TWO BUSINESS DAYS BEFORE YOU DIG

1. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION OF SITE IMPROVEMENTS SHALL MEET OR EXCEED SITE WORK STANDARDS AND THE STANDARDS AND SPECIFICATIONS SET FORTH IN **THE SPOKANE COUNTY** REGULATIONS AND APPLICABLE STATE AND FEDERAL REGULATIONS. WHERE THERE IS CONFLICT BETWEEN THESE PLANS AND THE SPECIFICATIONS, OR ANY APPLICABLE STANDARDS, THE HIGHER QUALITY STANDARD SHALL APPLY. ALL WORK WITHIN PUBLIC R.O.W. OR EASEMENTS SHALL BE INSPECTED AND APPROVED BY **THE SPOKANE COUNTY INSPECTOR.** INSPECTION SERVICES AND CONSTRUCTION CERTIFICATION TO BE PROVIDED BY DESIGNEE OF PROJECT SPONSOR/OWNER.

2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS, IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY PERTINENT LOCATIONS AND ELEVATIONS, ESPECIALLY AT THE CONNECTION POINTS AND AT POTENTIAL UTILITY CONFLICTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM ALL APPLICABLE AGENCIES. THE CONTRACTOR SHALL NOTIFY **SPOKANE COUNTY** AT LEAST 48 HOURS PRIOR TO THE START OF ANY EARTH DISTURBING ACTIVITY OR CONSTRUCTION ON ANY AND ALL PUBLIC IMPROVEMENTS.

4. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH **SPOKANE COUNTY** AND ALL UTILITY COMPANIES WITH REGARD TO RELOCATIONS OR ADJUSTMENTS OF EXISTING UTILITIES DURING CONSTRUCTION, TO ASSURE THAT THE WORK IS ACCOMPLISHED IN A TIMELY FASHION, AND WITH A MINIMUM DISRUPTION OF SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL PARTIES AFFECTED BY ANY DISRUPTION OF ANY UTILITY SERVICE.

5. THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THE APPROVED PLANS, ONE (1) COPY OF THE APPROPRIATE STANDARDS AND SPECIFICATIONS, AND ONE (1) COPY OF ANY PERMITS AND EXTENSION AGREEMENTS NEEDED FOR THE JOB ON-SITE AT ALL TIMES.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASPECTS OF SAFETY INCLUDING, BUT NOT LIMITED TO: EXCAVATION, TRENCHING, SHORING, TRAFFIC CONTROL, AND SECURITY.

7. IF, DURING THE CONSTRUCTION PROCESS, CONDITIONS ARE ENCOUNTERED BY THE CONTRACTOR, HIS SUBCONTRACTORS, OR OTHER AFFECTED PARTIES WHICH COULD INDICATE A SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.

8. ALL REFERENCES TO ANY PUBLISHED STANDARDS SHALL REFER TO THE LATEST REVISION OF SAID STANDARD, UNLESS SPECIFICALLY STATED OTHERWISE.

9. FOR WORK AFFECTING PUBLIC ROADWAYS OR IF REQUIRED BY **SPOKANE COUNTY,** THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL AND PHASING PLAN IN ACCORDANCE WITH M.U.T.C.D. FOR APPROVAL. PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN OR AFFECTING THE RIGHT-OF-WAY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY AND ALL TRAFFIC CONTROL DEVICES AS MAY BE REQUIRED BY SAID PLANS. PRIOR TO INSTALLATION. A PRECONSTRUCTION CONFERENCE SHALL BE HELD WITH **SPOKANE COUNTY.**

10. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL LABOR AND MATERIALS NECESSARY FOR THE COMPLETION OF THE INTENDED IMPROVEMENTS SHOWN ON THESE DRAWINGS OR DESIGNATED TO BE PROVIDED, INSTALLED, CONSTRUCTED, REMOVED OR RELOCATED UNLESS SPECIFICALLY NOTED OTHERWISE.

11. PER AGENCY STANDARDS THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ROADWAYS FREE AND CLEAR OF ALL CONSTRUCTION DEBRIS AND DIRT TRACKED FROM THE SITE.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING RECORD INFORMATION ON A SET OF RECORD DRAWINGS KEPT AT THE CONSTRUCTION SITE AND AVAILABLE TO **THE SPOKANE COUNTY INSPECTOR** AT ALL TIMES.

13. DIMENSIONS FOR LAYOUT AND CONSTRUCTION ARE NOT TO BE SCALED FROM ANY DRAWING. FOR ADDITIONAL INFORMATION CONTACT THE ENGINEER FOR CLARIFICATION AND NOTE ON THE RECORD DRAWINGS.

14. ALL EROSION AND SEDIMENT CONTROL **(E.S.C.)** MEASURES SHALL BE INSTALLED AT THE LIMITS OF CONSTRUCTION PRIOR TO GROUND DISTURBING ACTIVITY. ALL **E.S.C.** MEASURES SHALL BE MAINTAINED IN GOOD REPAIR BY THE CONTRACTOR UNTIL SUCH TIME AS THE ENTIRE DISTURBED AREAS ARE STABILIZED WITH HARD SURFACE OR LANDSCAPING.

15. THE CONTRACTOR SHALL SEQUENCE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO MINIMIZE POTENTIAL UTILITY CONFLICTS. IN GENERAL, STORM SEWER AND SANITARY SEWER SHOULD BE CONSTRUCTED PRIOR TO INSTALLATION OF WATER LINES AND DRY UTILITIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL UTILITY RELOCATIONS CONSISTENT WITH THE CONTRACTORS SCHEDULE FOR THIS PROJECT, WHETHER SHOWN OR NOT SHOWN, AS IT RELATES TO THE CONSTRUCTION ACTIVITIES CONTEMPLATED IN THESE PLANS.

16. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY IS SUBJECT TO THE JURISDICTION OF **THE SPOKANE COUNTY** ENGINEERING DEPARTMENT STANDARD DETAILS AND SPECIFICATIONS.

17. ALL CONSTRUCTION OPERATIONS, INCLUDING THE WARMING UP, REPAIR, ARRIVAL, DEPARTURE OR RUNNING OF TRUCKS, EARTH MOVING EQUIPMENT, CONSTRUCTION EQUIPMENT AND ANY OTHER ASSOCIATED EQUIPMENT SHALL GENERALLY BE LIMITED TO THE TIME PERIOD APPROVED BY **SPOKANE COUNTY.**

18. BASED ON REQUIREMENTS FROM **SPOKANE COUNTY,** THE ENGINEER OR HIS DESIGNEE SHALL PERFORM MATERIALS TESTING AND QUALITY CONTROL ON THE PROJECT AND SHALL SUBMIT COPIES OF DAILY REPORTS, TEST REPORTS, PROJECT CERTIFICATION AND RECORD DRAWINGS TO **THE SPOKANE COUNTY** ENGINEER.

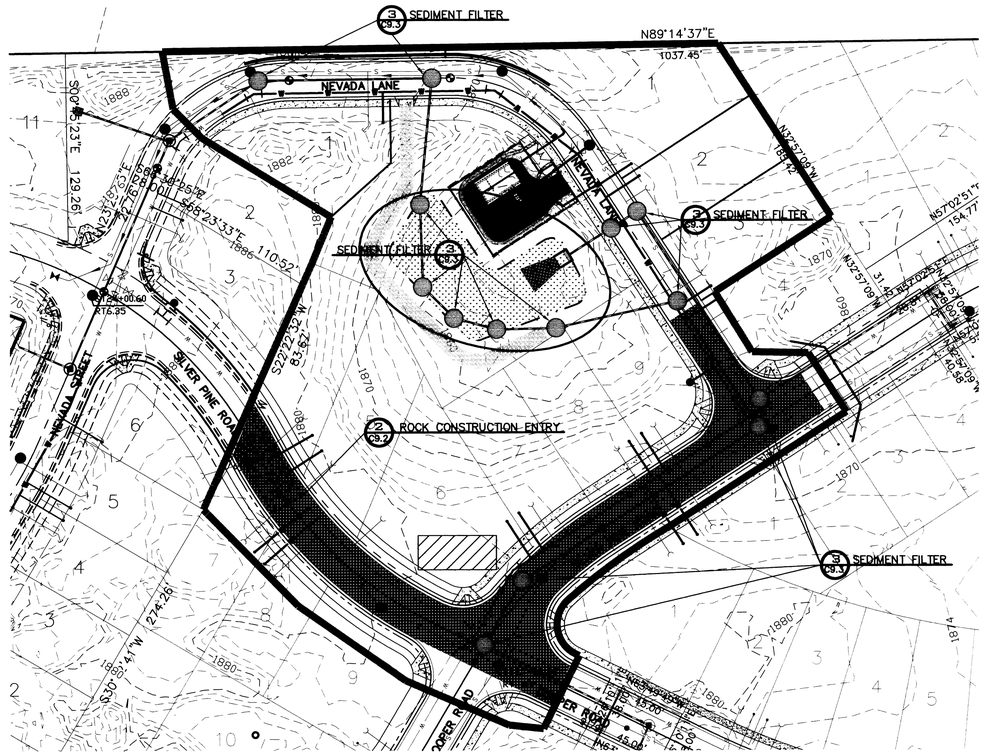
19. NO REVISIONS SHALL BE MADE TO THESE PLANS WITHOUT APPROVAL OF **THE SPOKANE COUNTY ENGINEERS** AND NOTIFICATION OF THE ENGINEER OF RECORD.

20. ON-SITE GRADING SHALL BE IN ACCORDANCE WITH THE APPROVED **GRADING PLAN** AND **E.S.C.** PLAN. ANY IMPORT OR EXPORT OF MATERIAL SHALL BE FROM A PREAPPROVED SOURCE/DESTINATION AND COORDINATED WITH THE **SPOKANE COUNTY** DEPARTMENT OF BUILDING AND PLANNING AT **509-477-3675.** GRADING ON THIS SITE OR ANY OTHER SITE MUST COMPLY WITH ALL DEVELOPMENT REGULATIONS INCLUDING, BUT NOT LIMITED TO: GRADING PERMITS, S.E.P.A. REVIEW, TIMBER HARVEST PERMITS, CRITICAL AREAS, FLOOD PLAINS, DESIGNATED DRAINAGE WAYS, ETC.

21. THE CONTRACTOR IS CAUTIONED THAT IT IS THE UNDERSTANDING OF THE OWNER AND THE ENGINEER THAT SHOULD A CONFLICT OR DISCREPANCY IN THESE PLANS, SPECIFICATIONS, GENERAL NOTES OR PLANS ET.AL. DETERMINED TO BE PART OF THE OVERALL PROJECT, INCLUDING BUT NOT LIMITED TO THE ARCHITECTURAL PLANS, MECHANICAL PLANS, ELECTRICAL PLANS, LANDSCAPE PLANS, GENERAL SPECIAL PROVISIONS, ETC., THAT WITHOUT WRITTEN CLARIFICATION FROM THE ENGINEER, OWNER OR OTHER PROFESSIONAL, DURING THE BIDDING PROCESS, THAT IN ALL INSTANCES THE CONTRACTOR WILL BE REQUIRED TO BID THE HIGHER STANDARD. FAILURE TO DO SO MAY RESULT IN THE HIGHER STANDARD BEING REQUIRED BY THE OWNER, ENGINEER OR OTHER PROFESSIONAL WITH NO CHANGE IN VALUE TO THE CONTRACT VIA CHANGE ORDER OR OTHER MECHANISM.

22. CONSTRUCTION OF EVERY DRYWELL, INCLUDING FABRIC AND DRAINROCK, SHALL BE OBSERVED BY THE ON-SITE INSPECTOR TO CONFIRM THAT IT MEETS THE DESIGN DETAILS AND SPECIFICATIONS. DRYWELLS NOT OBSERVED SHALL HAVE THEIR PERFORMANCE VERIFIED BY A FULL-SCALE DRYWELL TEST.

23. DURING CONSTRUCTION THE CONTRACTOR IS RESPONSIBLE TO COORDINATE ANY AND ALL INCONSISTENCIES BETWEEN THESE PLANS AND CONSTRUCTION STAKING. CONTRACTOR ASSUMES RESPONSIBILITY TO CONSTRUCT TO THESE PLANS IN LIEU OF FIELD STAKING. SHOULD INCONSISTENCIES BE APPARENT THE CONTRACTOR SHALL CONTACT THE ENGINEER, OWNER, AND SURVEYOR TO RECTIFY THE DISCREPANCY PRIOR TO CONSTRUCTION EFFORT BEING APPLIED.




## SITE PLAN

SCALE: 1" = 50'

## INDEX TO PLAN SHEETS


9.0 SWPPP/EROSION CONTROL COVER SHEET

9.1 SWPPP NOTES

9.2 SWPPP BMP'S

9.3 SWPPP BMP'S


N

W E

S

GRAPHIC SCALE

50 0 25 50 100

( IN FEET )
1 inch = 50 ft.

## LEGEND

STORM DRAINAGE POND – NO CONCRETE TRUCK WASHOUT AREA.

SILT FENCE – SEE DETAIL 1, SHEET C9.2 AND GENERAL NOTE 5, SHEET C9.1.

ROCK CONSTRUCTION ENTRY. SEE DETAIL 2, SHEET C9.2 AND GENERAL NOTE 6, SHEET C9.1.

SEDIMENT FILTER – SEE DETAIL 3, SHEET C9.3 AND GENERAL NOTE 4, SHEET C9.1.

CONCRETE WASHOUT AREA– MAY ONLY TAKE PLACE ON UNCOMPACTED SUBGRADE AFTER ASPHALT REMOVAL, AND IN A NON-LANDSCAPED AREA. OTHERWISE ANY CONCRETE WASHOUT MUST BE OFF SITE. SEE DETAIL 3, SHEET C9.3 AND GENERAL NOTE 7, SHEET C9.1.

LIMITS OF DISTURBANCE

SPOKANE COUNTY PUBLIC WORKS
OFFICIAL PUBLIC DOCUMENT ORIGINAL
CONSTRUCTION PLANS
PROJECT #: 13-1953A
DATE ACCEPTED: 08-15-14
ACCEPTANCE EXPIRES: 08-15-16
PROJECTS LANE MILES: PUBLIC: ___
PROJECT LANE MILES PRIVATE: .15
CONSTRUCTION DOCUMENTATION AND CERTIFIED RECORD DRAWINGS, "AS-BUILTS" ARE REQUIRED PRIOR TO COUNTY ACCEPTANCE AND ESTABLISHMENT OF THE ROADS AND DRAINAGE FACILITIES FOR MAINTENANCE
PERMIT REQUIRED! (509) 477-3600
NOTIFY PERMIT ENGINEER 2 BUSINESS DAYS PRIOR TO CONSTRUCTION

WHIPPLE CONSULTING ENGINEERS
STATE OF WASHINGTON
25462
REGISTERED PROFESSIONAL ENGINEER
8/14/14

NAVD - 88

VERTICAL DATUM BASED ON FOUND TEMPORARY BENCH MAKR LOCATED AT (GENERAL LOCATION) 3.4 MILES NORTH OF THE JUNCTION OF SR 395 AND SR 002 TBM - (WSDOT BRASS DISK IN CONC. #GP32395-202 & 523.24 M - NAVD88 (CALCULATED 1716.67 FT).

| NO. | DATE | BY | REVISIONS |
|---|---|---|---|
| - | 07/21/14 | BNG | ORIGINAL PREPARATION |

| SCALE: | | |
|---|---|---|
| HORIZONTAL: | PROJ #: | 04-063F |
| 1"=50' | DATE: | 08/05/14 |
| VERTICAL: | DRAWN: | BNG |
| - | REVIEWED: | TRW |

X CIVIL
STRUCTURAL
SURVEYING
TRAFFIC
PLANNING
LANDSCAPE
OTHER

WCE
WHIPPLE CONSULTING ENGINEERS
2528 NORTH SULLIVAN ROAD
SPOKANE VALLEY, WA 99216
PH: 509-893-2617 FAX: 509-926-0227

**WINDSOR ESTATES PHASE 2B.1**
**SWPPP COVER SHEET**
**HATCH ROAD & SILVER PINE ROAD**
**SPOKANE COUNTY, WASHINGTON**

SHEET
9.0

JOB NUMBER
2004-063F

N:\WORK\Land Projects 2005\04-63F Windsor Ph 2B\DWG\C9.0 SWPPP COVER SHEET.dwg, DESIGN, 8/14/2014 10:26:40 AM

UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
811
CALL TWO BUSINESS DAYS BEFORE YOU DIG

# EROSION & SEDIMENT CONTROL

## GENERAL NOTES AND INFORMATION

1. AN EROSION/SEDIMENT CONTROL **(E.S.C.)** PLAN IS REQUIRED FOR THIS PROJECT. IMPLEMENTATION OF THE **E.S.C. PLAN,** AND CONSTRUCTION, MAINTENANCE, AND UPGRADING OF THE **E.S.C.** FACILITIES ARE THE RESPONSIBILITY OF THE DEVELOPER UNTIL ALL CONSTRUCTION IS COMPLETED AND ACCEPTED BY **SPOKANE COUNTY,** OR UNTIL VEGETATION IS ESTABLISHED THROUGHOUT THE SITE, AND ACCEPTED BY **SPOKANE COUNTY,** WHICHEVER IS LATER.
2. APPROVAL OF THE **E.S.C. PLAN** DOES NOT CONSTITUTE APPROVAL OF ANY OF THE PROPOSED ROAD, STORM DRAINAGE, GRADING OR UTILITY DESIGN ELEMENTS SHOWN ON THE **E.S.C. PLAN.**
3. THE EROSION/SEDIMENT CONTROL MEASURES SHOWN ARE THE MINIMUM REQUIREMENTS FOR THE ANTICIPATED SITE CONDITIONS. THE CONTRACTOR SHALL INSPECT AND MAINTAIN THESE **E.S.C.** MEASURES DAILY, AND SHALL MAINTAIN AND UPGRADE THESE MEASURES AS NECESSARY TO PREVENT SEDIMENT-LADEN WATER FROM EITHER FLOWING OFF SITE, OR INTO NEW/EXISTING STORM DRAINAGE FACILITIES, SUCH AS DRYWELLS, CULVERTS, OR GRAVEL GALLERIES.
4. GEOTEXTILE FABRIC IS TO BE PLACED ON THE RIMS, CATCH BASINS AND INLETS UNTIL SUCH TIME THAT THE VEGETATION ON THE SITE IS ESTABLISHED AND THE THREAT OF SEDIMENT DEPOSITION INTO THE DRAINAGE SYSTEM IS MITIGATED.
5. THE SILT FENCES SHALL BE INSTALLED BY THE CONTRACTOR PRIOR TO OTHER SITE WORK, AND MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION.
6. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING ROCK CONSTRUCTION ENTRIES AT ANY AND ALL LOCATIONS USED TO ENTER OR EXIT THE PROJECT SITE. SEE DETAIL,
7. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNATING A LOCATION WHERE CONCRETE TRUCKS AND EQUIPMENT CAN BE WASHED OUT, NOT LOCATED NEAR OR DRAINING INTO A STORM DRAINAGE AREA.
8. PROPERTY OWNER: **PAKIBA, (509) 455-8883**
   PERMIT APPLICANT: **WHIPPLE CONSULTING ENGINEERS, 509-893-2617**
   CONTACT PERSON ON SITE: **TRAVIS PASKE, (509) 951-4976**
9. PROJECT LOCATION: **IN SPOKANE COUNTY, SECTION 29, TOWNSHIP 27 NORTH, RANGE 43 EAST, W.M.**
10. PROJECT DESCRIPTION: **WINDSOR ESTATES IS A RESIDENTIOAL SUBDIVISION CONSISTING OF 4 (PHASE 2B.1) LOTS AND WILL REQUIRE CONSTRUCTION OF ROADS AND STORM DRAINAGE.**
11. DESCRIPTION OF **E.S.C.** MEASURES: USE OF SILT FENCES AND SEDIMENTATION FILTERS. ALL **E.S.C.** MEASURES MENTIONED ABOVE ARE TEMPORARY AND WILL BE REMOVED AFTER SITE IS LANDSCAPED.
12. EXISTING VEGETATION: **TREES, SHRUBS, GRASS AND WET SOIL PLANTS**
13. PLAN PREPARATION DATE: **JULY 2014**
14. **SOILS: ON SITE SOILS, HfC – HAGEN LOAMY FINE SAND; HmA – HARDESTY SILT LOAM; HhA – HARDESTY SILT LOAM; BeB – BERNHILL GRAVELLY SILT LOAM; PeA – PEONE SILT LOAM**
15. **STABILIZATION OF DENUDED AREAS:**
    ANY DISTURBED AREAS, WHICH WOULD BE LEFT BARE FOR MORE THAN 7 DAYS AND ARE NOT INTENDED TO BE REWORKED WITHIN 30-45 DAYS SHALL BE SEEDED WITH A FAST STARTING NATIVE DRYLAND GRASS SUCH AS ANNUAL RYE, OR APPROVED EQUAL, AT A RATE OF 60 lbs/ACRE.
16. **CONTROL OF POLLUTANTS:**
    ANY SPILLS WILL BE HANDLED ACCORDING TO **D.O.E. AND D.O.H.** GUIDELINES.
17. **LIMITS OF GRADING:**
    DURING THE COURSE OF CONSTRUCTION, THE AMOUNT OF DISTURBED AREA SHALL BE KEPT TO A MINIMUM AND SHALL BE LIMITED TO THE AREA SHOWN AS "LIMITS OF GRADING" ON THIS SHEET OF THE EROSION CONTROL PLANS.

## MAINTENANCE

1. **THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF THE TEMPORARY E.S.C.** MEASURES.
2. SEDIMENT BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RUNOFF-PRODUCING RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
3. NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF FILTER FABRIC SHALL BE ACCOMPLISHED PROMPTLY.
4. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RUNOFF-PRODUCING RAINFALL. DEPOSITS MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY 1/2 THE HEIGHT OF THE BARRIER.
5. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE **E.S.C.** STRUCTURE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.
6. ALL TEMPORARY AND PERMANENT **E.S.C.** PRACTICES SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION.
7. ALL TEMPORARY **E.S.C.** MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMP'S ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL AREAS RESULTING FROM REMOVAL SHALL BE PERMANENTLY STABILIZED.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING DIRT, MUD AND OTHER CONSTRUCTION DEBRIS WHICH MAY ACCUMULATE ON PAVED STREETS ADJACENT TO THE SITE AS A RESULT OF CONSTRUCTION ACTIVITY. CLEANING SHALL BE ON AN "AS NEEDED" BASIS USING SWEEPING AND WATER TO WASH THE CONSTRUCTION DEBRIS FROM THE STREET.
9. ON-SITE DUST CONTROL SHALL BE ACCOMPLISHED BY USING WATER. APPLICATIONS OF WATER MAY BE REQUIRED SEVERAL TIMES PER DAY DURING CONSTRUCTION ACTIVITY.

# E.S.C. STANDARD PLAN NOTES FROM APPENDIX 9A OF THE SPOKANE REGIONAL STORMWATER MANUAL

1. THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE FOLLOWED IN ORDER TO BEST MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENTATION CONTROL PROBLEMS.

(A) CLEAR AND GRUB SUFFICIENTLY FOR INSTALL OF TEMPORARY **E.S.C.** BMP'S;

(B) INSTALL TEMPORARY **E.S.C.** BMPs, CONSTRUCTING SEDIMENT TRAPPING BMP'S AS ONE OF THE FIRST STEPS PRIOR TO GRADING;

(C) CLEAR, GRUB AND ROUGH GRADE FOR ROADS, TEMPORARY ACCESS POINTS AND UTILITY LOCATIONS;

(D) STABILIZE ROADWAY APPROACHES AND TEMPORARY ACCESS POINTS WITH THE APPROPRIATE CONSTRUCTION ENTRY BMP;

(E) CLEAR, GRUB AND GRADE INDIVIDUAL LOTS OR GROUPS OF LOTS;

(F) TEMPORARILY STABILIZE, THROUGH RE-VEGETATION OR OTHER APPROPRIATE BMP'S, LOTS OR GROUPS OF LOTS IN SITUATIONS WHERE SUBSTANTIAL CUT OR FILL SLOPES ARE A RESULT OF THE SITE GRADING;

(G) CONSTRUCT ROADS, BUILDINGS, PERMANENT STORMWATER FACILITIES. (I.E. INLETS, PONDS, U.I.C. FACILITIES, ETC.);

(H) PROTECT ALL PERMANENT STORMWATER FACILITIES UTILIZING THE APPROPRIATE BMP'S;

(I) INSTALL PERMANENT **E.S.C.** CONTROLS, WHEN APPLICABLE; AND,

(J) REMOVE TEMPORARY **E.S.C.** CONTROLS WHEN;

2. PERMANENT **E.S.C.** CONTROLS. WHEN APPLICABLE, HAVE BEEN COMPLETELY INSTALLED;
3. ALL LAND-DISTURBING ACTIVITIES THAT HAVE THE POTENTIAL TO CAUSE EROSION AND SEDIMENTATION PROBLEMS HAVE CEASED; AND,
4. VEGETATION HAD BEEN ESTABLISHED IN THE AREAS NOTED AS REQUIRING VEGETATION ON THE ACCEPTED **E.S.C.** PLAN ON FILE WITH THE LOCAL JURISDICTION.
5. INSPECT ALL ROADWAYS, AT THE END OF EACH DAY, ADJACENT TO THE CONSTRUCTION ACCESS ROUTE. IF IT IS EVIDENT THAT SEDIMENT HAS BEEN TRACKED OFF SITE AND/OR BEYOND THE ROADWAY APPROACH, CLEANING IS REQUIRED.
6. IF SEDIMENT REMOVAL IS NECESSARY PRIOR TO STREET WASHING, IT SHALL BE REMOVED BY SHOVELING OR PICKUP SWEEPING AND TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.
7. IF STREET WASHING IS REQUIRED TO CLEAN SEDIMENT TRACKED OFF SITE, ONCE SEDIMENT HAS BEEN REMOVED, STREET WASH WASTEWATER SHALL BE CONTROLLED BY PUMPING BACK ON-SITE OR OTHERWISE PREVENTED FROM DISCHARGING INTO SYSTEMS TRIBUTARY TO WATERS OF THE STATE.
8. RESTORE CONSTRUCTION ACCESS ROUTE EQUAL TO OR BETTER THAN THE PRE-CONSTRUCTION CONDITION.
9. RETAIN THE DUFF LAYER, NATIVE TOPSOIL, AND NATURAL VEGETATION IN AND UNDISTURBED STATE TO THE MAXIMUM EXTENT PRACTICAL.
10. INSPECT SEDIMENT CONTROL BMP'S WEEKLY AT A MINIMUM, DAILY DURING A STORM EVENT, AND AFTER ANY DISCHARGE FROM THE SITE (STORMWATER OR NON-STORMWATER). THE INSPECTION FREQUENCY MAY BE REDUCED TO ONCE A MONTH IF THE SITE IS STABILIZED AND INACTIVE.
11. CONTROL FUGITIVE DUST FROM CONSTRUCTION ACTIVITY IN ACCORDANCE WITH THE STATE AND/OR LOCAL AIR QUALITY CONTROL AUTHORITIES WITH JURISDICTION OVER THE PROJECT AREA.
12. STABILIZE EXPOSED UNWORKED SOILS (INCLUDING STOCKPILES), WHETHER AT FINAL GRADE OR NOT WITHIN 10 DAYS DURING THE REGIONAL DRY SEASON (JULY 1 TO SEPTEMBER 30) AND WITHIN 5 DAYS DURING THE REGIONAL WET SEASON (OCTOBER 1 THRU JUNE 30). SOILS MUST BE STABILIZED AT THE END OF A SHIFT BEFORE A HOLIDAY WEEKEND IF NEEDED BASED ON THE WEATHER FORECAST. THE TIME LIMIT MAY ONLY BE ADJUSTED BY A LOCAL JURISDICTION WITH A "QUALIFIED LOCAL PROGRAM," IF IT CAN BE DEMONSTRATED THAT THE RECENT PRECIPITATION JUSTIFIES A DIFFERENT STANDARD AND MEETS THE REQUIREMENTS SET FORTH IN THE CONSTRUCTION STORMWATER GENERAL PERMIT.
13. PROTECT INLETS, DRYWELLS, CATCH BASINS AND OTHER STORMWATER MANAGEMENT FACILITIES FROM SEDIMENT, WHETHER OR NOT FACILITIES ARE OPERABLE.
14. KEEP ROADS ADJACENT TO INLETS CLEAN.
15. INSPECT INLETS WEEKLY AT A MINIMUM AND DAILY FOR STORM EVENTS.
16. CONSTRUCT STORMWATER CONTROL FACILITIES (DETENTION/RETENTION STORAGE POND OR SWALES) BEFORE GRADING BEGINS. THESE FACILITIES SHALL BE OPERABLE BEFORE THE CONSTRUCTION OF IMPERVIOUS SITE IMPROVEMENTS.
17. STOCKPILE MATERIALS (SUCH AS TOPSOIL) ON SITE, KEEPING OFF OF ROADWAY AND SIDEWALKS.
18. COVER, CONTAIN AND PROTECT ALL CHEMICALS, LIQUID PRODUCTS, PETROLEUM PRODUCT, AND NON-INERT WASTES PRESENT ON SITE FROM VANDALISM (SEE CHAPTER 173-304 W.A.C. FOR THE DEFINITION OF INERT WASTE), USE SECONDARY CONTAINMENT FOR ON-SITE FUELING TANKS.
19. CONDUCT MAINTENANCE AND REPAIR OF HEAVY EQUIPMENT AND VEHICLES INVOLVING OIL CHANGES, HYDRAULIC SYSTEMS REPAIRS, SOLVENT AND DE_GREASING OPERATIONS, FUEL TANKDRAIN DOWN AND REMOVAL, AND OTHER ACTIVITIES THAT MAY RESULT IN DISCHARGE OR SPILLAGE OF POLLUTANTS TO THE GROUND OR INTO STORMWATER RUNOFF USING SPILL RECONVENTION MEASURES, SUCH AS DRIP PANS. CLEAN ALL CONTAMINATED SURFACES IMMEDIATELY FOLLOWING ANY DISCHARGE OR SPILL INCIDENT. IF RAINING OVER EQUIPMENT OR VEHICLE, PERFORM EMERGENCY REPAIRS ON SITE USING TEMPORARY PLASTIC BENEATH THE VEHICLE.
20. CONDUCT APPLICATION OF AGRICULTURAL CHEMICALS, INCLUDING FERTILIZERS AND PESTICIDES, IN SUCH A MANNER, AND AT APPLICATION RATES, THAT INHIBITS THE LOSS OF CHEMICALS INTO STORMWATER RUNOFF FACILITIES. AMEND MANUFACTURER'S RECOMMENDED APPLICATION RATES AND PROCEDURES TO MEET THIS REQUIREMENT, IF NECESSARY.
21. INSPECT ON A REGULAR BASIS (AT A MINIMUM WEEKLY, AND DAILY DURING/AFTER A RUNOFF PRODUCING EVENT) AND MAINTAIN ALL **EROSION AND SEDIMENT CONTROL** BMP'S TO ENSURE SUCCESSFUL PERFORMANCE OF THE BMP'S. NOTE THAT INLET PROTECTIONS DEVICES SHALL BE CLEANED OR REMOVED AND REPLACE BEFORE SIX INCHES OF SEDIMENT CAN ACCUMULATE.
22. REMOVE TEMPORARY **E.SC.** BMP'S WITHIN 30 DAYS AFTER THE TEMPORARY BMP'S ARE NO LONGER NEEDED. PERMANENTLY STABILIZE AREA THAT ARE DISTURBED DURING REMOVAL PROCESS.

## SRCAA GENERAL NOTES

1. DUST EMISSIONS DURING DEMOLITION, CONSTRUCTION, AND EXCAVATION PROJECTS MUST BE CONTROLLED. THIS MAY REQUIRE THE USE OF WATER SPRAYS, TARPS, SPRINKLERS, OR SUSPENSION OF ACTIVITY DURING CERTAIN WEATHER CONDITIONS.
2. MEASURES MUST BE TAKEN TO AVOID THE DEPOSITION OF DIRT AND MUD FROM UNPAVED SURFACES ONTO PAVED SURFACES. IF TRACKING OR SPILLS OCCUR ON PAVED SURFACES, MEASURES MUST BE TAKEN IMMEDIATELY TO CLEAN THESE SURFACES.
3. DEBRIS GENERATED, AS A RESULT OF THIS PROJECT, MUST BE DISPOSED OF BY MEANS OTHER THAN BURNING (I.E., CONSTRUCTION WASTE, VEGETATIVE WASTE, ECT.).
4. SPOKANE CLEAN AIR (SRCAA) STRONGLY RECOMMENDS THAT ALL TRAVELED SURFACES (I.E., INGRESS, EGRESS, PARKING AREAS, ACCESS ROADS, ECT.) BE PAVED AND KEPT CLEAN TO MINIMIZE DUST EMISSIONS.
5. IF OBJECTIONABLE ODORS RESULT FROM THIS PROJECT, EFFECTIVE CONTROL APPARATUS AND MEASURES MUST BE TAKEN TO REDUCE ODORS TO A MINIMUM.
6. SPECIAL ATTENTION SHOULD BE GIVEN TO PROPER MAINTENANCE OF DIESEL POWERED CONSTRUCTION EQUIPMENT TO REDUCE THE IMPACT OF DIESEL EXHAUST, A SUSPECTED CARCINOGEN.
7. A NOTICE OF CONSTRUCTION AND APPLICATION FOR APPROVAL IS REQUIRED TO BE SUBMITTED AND APPROVED BY SRCAA PRIOR TO THE CONSTRUCTION, INSTALLATION, OR ESTABLISHMENT OF AN AIR POLLUTION SOURCE. THIS INCLUDES EMERGENCY GENERATORS RATED AT 500 HP(375 KW) OR HIGHER, NATURAL GAS HEATING EQUIPMENT UNITS RATED AT FOUR MMBTU/HOUR OR HIGHER (INPUT), AND HEATING EQUIPMENT UNITS FIRED WITH OTHER FUELS (E.G., DIESEL) RATED AT ONE MMBTU/HOUR (INPUT) OR HIGHER. CONTACT SPOKANE CLEAN AIR (SRCAA) FOR A NOTICE OF CONSTRUCTION APPLICATION.
8. NOTICE OF INTENT MUST BE SUBMITTED TO SRCAA PRIOR TO ANY DEMOLITION PROJECT OR ASBESTOS PROJECT. AN ASBESTOS SURVEY MUST BE DONE BY AN HERA-ACCREDITED BUILDING INSPECTOR PRIOR TO THE DEMOLITION OR RENOVATION OF BUILDINGS TO DETERMINE IF ASBESTOS-CONTAINING MATERIAL IS PRESENT AT THE SITE. CONTACT SPOKANE CLEAN AIR (SRCAA) FOR A NOTICE OF INTENT APPLICATION.

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GRAPHIC SCALE
50 0 25 50 100
( IN FEET )
1 inch = 50 ft.

SPOKANE COUNTY PUBLIC WORKS
OFFICIAL PUBLIC DOCUMENT ORIGINAL
**CONSTRUCTION PLANS**
PROJECT #: P-19553A
DATE ACCEPTED: 08-15-14
ACCEPTANCE EXPIRES: 08-15-16
PROJECTS LANE MILES: PUBLIC:
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TODD W. WHIPPLE
STATE OF WASHINGTON
25462
REGISTERED PROFESSIONAL ENGINEER
8/14/14

NAVD - 88
VERTICAL DATUM BASED ON FOUND TEMPORARY BENCH MAKR LOCATED AT (GENERAL LOCATION) 3.4 MILES NORTH OF THE JUNCTION OF SR 395 AND SR 002 TBM - (WSDOT BRASS DISK IN CONC. #GP32395-202 & 523.24 M - NAVD88 (CALCULATED 1716.67 FT).

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**WINDSOR ESTATES PHASE 2B.1**
**SWPPP NOTES**
**HATCH ROAD & SILVER PINE ROAD**
**SPOKANE COUNTY, WASHINGTON**

SHEET
9.1

JOB NUMBER
2004-063F

WORK\Land Projects 2005\04-63F Windsor Ph 2B\DWG\C9.1 SWPPP PLAN.dwg, DESIGN, 8/14/2014 10:31:38 AM

# BMP C233: SILT FENCE

INFORMATION TAKEN FROM CHAPTER 7 OF THE EASTERN WASHINGTON STORMWATER MANAGEMENT MANUAL 2004 EDITION

PURPOSE:

USE OF SILT FENCE REDUCES THE TRANSPORT OF COARSE SEDIMENT FROM A CONSTRUCTION SITE BY PROVIDING A TEMPORARY PHYSICAL BARRIER TO SEDIMENT AND REDUCING THE RUNOFF VELOCITIES OF OVERLAND FLOW. SEE FIGURE 7.3.20 OF THE EASTERN WASHINGTON STORMWATER MANUAL OR DETAIL BELOW FOR DETAILS ON SILT FENCE CONSTRUCTION.

CONDITIONS OF USE:

SILT FENCE MAY BE USED DOWNSLOPE OF ALL DISTURBED AREAS. SILT FENCE IS NOT INTENDED TO TREAT CONCENTRATED FLOWS, NOR IS IT INTENDED TO TREAT SUBSTANTIAL AMOUNTS OF OVERLAND FLOW. ANY CONCENTRATED FLOWS MUST BE CONVEYED THROUGH THE DRAINAGE SYSTEM TO A SEDIMENT POND. THE ONLY CIRCUMSTANCE IN WHICH OVERLAND FLOW CAN BE TREATED SOLELY BY A SILT FENCE, RATHER THAT BY A SEDIMENT POND, IS WHEN THE AREA DRAINING TO THE FENCE IS ONE ACRE OR LESS AND FLOW RATES ARE LESS THAN 0.5 CFS.

SILT FENCES SHOULD NOT BE CONSTRUCTED IN STREAMS OR USED IN V-SHAPED DITCHES. THEY ARE NOT AN ADEQUATE METHOD OF SILT CONTROL FOR ANYTHING DEEPER THAT SHEET OR OVERLAND FLOW.

DESIGN AND INSTALLATION:

DRAINAGE AREA OF 1 ACRE OR LESS OR IN COMBINATION WITH SEDIMENT BASIN IN A LARGER SITE.

MAXIMUM SLOPE STEEPNESS (NORMAL OR PERPENDICULAR TO FENCE LINE) 1:1.

MAXIMUM SHEET OR OVERLAND FLOW PATH LENGTH TO THE FENCE OF 100 FEET.

NO FLOWS GREATER THAN 0.5 CFS.

THE GEOTEXTILE USED SHALL MEET THE FOLLOWING STANDARDS. ALL GEOTEXTILE PROPERTIES LISTED BELOW ARE MINIMUM AVERAGE ROLL VALUES.

| | |
|---|---|
| POLYMETRIC MESH AOS (ASTM D4751) | 0.60MM MAX. FOR SLIT WOVENS (#30 SIEVE). 0.30MM MAX. FOR ALL OTHER GEOTEXTILE TYPES (#50 SIEVE). 0.15MM MAX. FOR ALL FABRIC TYPES (#100 SIEVE). |
| WATER PERMITTIVITY (ASTM D4491) | 0.02/SEC MIN. |
| GRAB TENSILE STRENGTH (ASTM D4632) | 180 LBS. MIN. FOR EXTRA STRENGTH FABRIC. 100 LBS. MIN. FOR STANDARD STRENGTH |

FABRIC.

| | |
|---|---|
| GRAB TENSILE ELONGATION (ASTM D4632) | 30% MAX, |
| ULTRAVIOLET RESISTANCE (ASTM D4335) | 70% MIN. |

STANDARD STRENGTH FABRICS SHALL BE SUPPORTED WITH WIRE MESH, CHICKEN WIRE, 2-INCH X 2-INCH, SAFETY FENCE, OR JUST MESH TO INCREASE THE STRENGTH OF FABRIC. SILT FENCE MATERIALS ARE AVAILABLE THAT HAVE MESH BACKING ATTACHED.

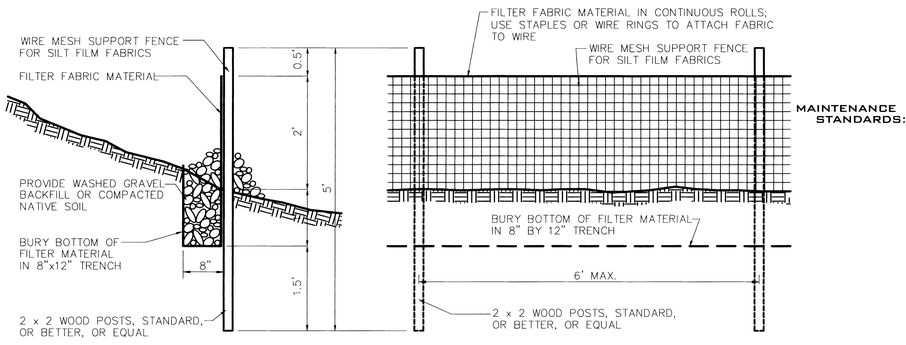
SYNTHETIC

FILTER FABRIC MATERIAL SHALL CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF SIX MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0°F. TO 120°F.

100 PERCENT BIODEGRADABLE SILT FENCE IS AVAILABLE THAT IS STRONG, LONG LASTING, AND CAN BE LEFT IN PLACE AFTER THE PROJECT IS COMPLETED, IF PERMITTED BY LOCAL REGULATIONS.

CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY SILT FENCES AT THE LOCATIONS SHOWN IN THE PLANS. THE SILT FENCE SHALL BE CONSTRUCTED IN THE AREAS OF CLEARING, GRADING, OR DRAINAGE PRIOR TO STARTING THOSE ACTIVITIES. A SILT FENCE SHALL NOT BE CONSIDERED TEMPORARY IF THE SILT FENCE MUST OPERATE BEYOND THE LENGTH OF THE CONTRACT. THE SILT FENCE SHALL PREVENT SOIL CARRIED BY RUNOFF WATER FROM GOING BENEATH, THROUGH, OR OVER THE TOP OF THE SILT FENCE, BUT SHALL ALLOW WATER TO PASS THROUGH THE FENCE.

THE MINIMUM HEIGHT OF THE TOP OF SILT FENCE SHALL BE 2 FEET AND THE MAXIMUM SHALL BE 2.5 FEET ABOVE THE ORIGINAL GROUND SURFACE.




SECTION

ELEVATION

## SILT FENCE DETAIL

NOT TO SCALE

1 / -

DESIGN AND INSTALLATION: (CONTINUED)

THE GEOTEXTILE SHALL BE SEWN TOGETHER AT THE POINT OF MANUFACTURE, OR AT AN APPROVED LOCATION AS DETERMINED BY THE ENGINEER, TO FORM GEOTEXTILE LENGTHS AS REQUIRED. ALL SEWN SEAMS SHALL BE LOCATED AT A SUPPORT POST. ALTERNATIVELY, TWO SECTIONS OF SILT FENCE CAN BE OVERLAPPED, PROVIDED THE CONTRACTOR CAN DEMONSTRATE, TO THE SATISFACTION OF THE ENGINEER, THAT THE OVERLAP IS LONG ENOUGH AND THAT THE ADJACENT FENCE SECTIONS ARE CLOSE ENOUGH TOGETHER TO PREVENT SILT LADEN WATER FROM ESCAPING THROUGH THE FENCE AT THE OVERLAP.

THE GEOTEXTILE SHALL BE ATTACHED ON THE UP-SLOPE SIDE OF THE POSTS AND SUPPORT SYSTEM WITH STAPLES, WIRE, OR IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE GEOTEXTILE SHALL BE ATTACHED IN A MANNER THAT REDUCES THE POTENTIAL FOR GEOTEXTILE TEARING AT THE STAPLES, WIRE, OR OTHER CONNECTION DEVICE. SILT FENCE BACKUP SUPPORT FOR THE GEOTEXTILE IN THE FORM OF A WIRE OF PLASTIC MESH IS DEPENDENT ON THE PROPERTIES OF THE GEOTEXTILE SELECTED FOR SUE. IF WIRE OR PLASTIC BACK-UP MESH IS USED, THE MESH SHALL BE FASTENED SECURELY TO THE UP-SLOPE OF THE POSTS WITH THE GEOTEXTILE BEING UP-SLOPE OF THE MESH BACK SUPPORT.

THE GEOTEXTILE AT THE BOTTOM OF THE FENCE HALL BE BURIED IN A TRENCH TO A MINIMUM DEPTH OF 4" BELOW THE GROUND SURFACE. THE TRENCH SHALL BE BACKFILLED AND THE SOIL TAMPED IN PLACE OVER THE BURIED PORTION OF THE GEOTEXTILE, SUCH THAT NO FLOW CAN PASS BENEATH THE FENCE AND SCOURING CAN NOT OCCUR. WHEN WIRE OR POLYMETRIC BACK-UP SUPPORT MESH IS USED, THE WIRE OR POLYMERIC MESH SHALL EXTEND INTO THE TRENCH A MINIMUM OF 3".

THE FENCE POSTS SHALL BE PLACED OR DRIVEN A MIN. OF 18'. A MIN. DEPTH OF 12" IS ALLOWED IF TOPSOIL OR OTHER SOFT SUBGRADE SOIL IS NOT PRESENT AND A MIN. DEPTH OF 18' CANNOT BE REACHED. FENCE POST DEPTHS SHALL BE INCREASED 6' IF THE FENCE IS LOCATED ON SLOPES PF 3;1 OR STEEPER AND THE SLOPE IS PERPENDICULAR TO THE FENCE. IF REQUIRED POST DEPTHS CANNOT BE OBTAINED, THE POSTS SHALL BE ADEQUATELY SECURED BY BRACING OR GUYING TO PREVENT OVERTURNING OF THE FENCE DUE TO SEDIMENT LOADING.

SILT FENCES SHALL BE LOCATED ON CONTOUR AS MUCH AS POSSIBLE, EXCEPT AT THE ENDS OF THE FENCE, WHERE THE FENCE SHALL BE TURNED UPHILL SUCH THAT THE SILT FENCE CAPTURES THE RUNOFF WATER AND PREVENTS WATER FROM FLOWING AROUND THE END OF THE FENCE.

IF THE FENCE MUST CROSS CONTOURS, WITH THE EXCEPTION OF THE END OF THE FENCE. GRAVEL CHECK DAMS PLACED PERPENDICULAR TO THE BACK OF THE FENCE SHALL BE USED TO MINIMIZE CONCENTRATED FLOW AND EROSION ALONG THE BACK OF THE FENCE. THE GRAVEL CHECK DAMS SHALL BE APPROXIMATELY 1' DEEP AT THE BACK OF THE FENCE. IT SHALL BE CONTINUED PERPENDICULAR TO THE FENCE AT THE SAME ELEVATION UNTIL THE TOP OF THE CHECK DAM INTERCEPTS THE THE GROUND SURFACE BEHIND THE FENCE. THE GRAVEL CHECK DAMS SHALL CONSIST OF CRUSHED SURFACING TOP COURSE, GRAVEL BACKFILL FOR WALLS, OR SHOULDER BALLAST. THE GRAVEL CHECK DAMS SHALL BE LOCATED EVERY 10' ALONG THE FENCE WHERE THE FENCE MUST CROSS THE CONTOURS. THE SLOPE OF THE FENCE LINE WHERE THE CONTOURS MUST BE CROSSED SHALL NOT BE STEEPER THAN 3:1.

WOOD, STEEL OR EQUIVALENT POSTS SHALL BE USED. WOOD POSTS SHALL HAVE MINIMUM DIMENSIONS OF 2"X2"X3' MIN. LENGTH, AND SHALL BE FREE OF DEFECTS SUCH AS KNOTS, SPLITS, OR GOUGES. STEEL POSTS SHALL CONSIST OF EITHER SIZE NO. 6 REBAR OR LARGER, ASTM A 120 STEEL PIPE WITH A MIN. DIAMETER. OR 1-INCH, U, T, L, OR C SHAPE STEEL POSTS WITH A MIN. WEIGHT OF 1.35 LBS./FT. OR OTHER STEEL POSTS HAVING EQUIVALENT STRENGTH AND BENDING RESISTANCE TO THE POST SIZES LISTED. THE SPACING OF THE SUPPORTS POSTS SHALL BE A MAXIMUM OR 6'.

FENCE BACK-UP SUPPORT, IF USED, SHALL CONSIST OF STEEL WIRE WITH A MAX. MESH SPACING OF 2', OR A PREFABRICATED POLYMERIC MESH. THE STRENGTH OF WIRE ON POLYMERIC MESH SHALL BE EQUIVALENT TO OR GREATER THAT 180 LBS. GRAB TENSILE STRENGTH. THE POLYMERIC MESH MUST BE AS RESISTANT TO ULTRAVIOLET. RADIATION AS THE GEOTEXTILE IT SUPPORTS.

SILT FENCE INSTALLATION USING THE SLICING METHOD SPECIFICATION DETAILS FOLLOW.

THE BASE OF BOTH END POSTS MUST BE AT LEAST 2-4"ABOVE THE TOP OF THE SILT FENCE FABRIC ON THE MIDDLE POSTS FOR DITCH CHECKS TO DRAIN PROPERLY. USE A HAND LEVEL OR STRING LEVEL, IF NECESSARY, TO MARK BASE POINTS BEFORE INSTALLATION.

INSTALL POSTS 3-4' APART IN CRITICAL RETENTION AREAS. AND 6-7' APART IN STANDARD APPLICATIONS.

INSTALL POSTS 24" DEEP ON THE DOWNSTREAM SIDE OF THE SILT FENCE, AND AS CLOSE AS POSSIBLE TO THE FABRIC. ENABLING POSTS TO SUPPORT THE FABRIC FROM THE UPSTREAM WATER PRESSURE.

INSTALL POSTS WITH NIPPLES FACING AWAY FROM THE SILT FENCE FABRIC.

ATTACH THE FABRIC TO EACH POST WITH THREE TIES, ALL SPACED WITH THE TOP 8" OF THE FABRIC. ATTACH EACH TIE DIAGONALLY 45 DEGREES THROUGH THE FABRIC, WITH EACH PUNCTURE AT LEAST 1 INCH VERTICALLY APART. IN ADDITION, EACH TIE SHOULD BE POSITIONED TO HANG ON A POST NIPPLE WHEN TIGHTENING TO PREVENT SAGGING.

WRAP APPROXIMATELY 6 INCHES OF FABRIC AROUND THE END POSTS AND SECURE WITH 3 TIES.

NO MORE THEN 24" OF A 36" FABRIC IS ALLOWED ABOVE GROUND LEVEL.

THE ROPE LOCK SYSTEM MUST BE USED IN ALL DITCH CHECK APPLICATIONS.

THE INSTALLATION SHOULD BE CHECKED AND CORRECTED FOR ANY DEVIATION BEFORE COMPACTION. USE A FLAT-BLADED SHOVEL TO TUCK FABRIC DEEPER INTO THE GROUND IF NECESSARY.

COMPACTION IS VITALLY IMPORTANT FOR EFFECTIVE RESULTS. COMPACT THE SOIL IMMEDIATELY NEXT TO THE SILT FENCE WITH THE FRONT WHEEL OF A TRACTOR, SKID STEER, OR ROLLER EXERTING 60 PSI, COMPACT THE UPSTREAM SIDE FIRST AND THEN EACH SIDE TWICE FOR A TOTAL OF FOUR TRIPS

MAINTENANCE STANDARDS:

ANY DAMAGE SHALL BE REPAIRED IMMEDIATELY.

IF CONCENTRATED FLOWS ARE EVIDENT UPHILL OF THE FENCE, THEY MUST BE INTERCEPTED AND CONVEYED TO A SEDIMENT POND.

IT IS IMPORTANT TO CHECK THE UPHILL SIDE OF THE FENCE FOR SIGNS OF THE FENCE CLOGGING AND ACTING AS A BARRIER TO FLOW AND THEN CAUSING CHANNELIZATION OF THE FLOWS PARALLEL TO THE FENCE, IF THIS OCCURS, REPLACE THE FENCE OR REMOVE THE TRAPPED SEDIMENT.

SEDIMENT DEPOSITS SHALL EITHER BE REMOVED WHEN THE DEPOSIT REACHES APPROXIMATELY ONE-THIRD THE HEIGHT OF THE SILT FENCE, OR A SECOND SILT FENCE INSTALLED.

IF THE FILTER FABRIC OR GEOTEXTILE HAS DETERIORATED DUE TO ULTRAVIOLENT BREAKDOWN, IT SHALL BE REPLACED.

UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
811
CALL TWO BUSINESS DAYS BEFORE YOU DIG

# BMP C105: STABILIZED CONSTRUCTION ENTERANCE

PURPOSE:

CONSTRUCTION ENTRANCES ARE STABILIZED TO REDUCE THE AMOUNT OF SEDIMENT TRANSPORTED ONTO PAVED ROADS BY VEHICLES OR EQUIPMENT BY CONSTRUCTING A STABILIZED PAD OF QUARRY SPALLS AT ENTRANCES TO CONSTRUCTION SITES.

CONDITIONS OF USE:

CONSTRUCTION ENTRANCES SHALL BE STABILIZED WHEREVER TRAFFIC WILL BE LEAVING A CONSTRUCTION SITE AND TRAVELING ON PAVED ROADS OR OTHER PAVED AREAS WITHIN 1,000 FEET OF THE SITE.

ON LARGE COMMERCIAL, HIGHWAY, AND ROAD PROJECTS, THE DESIGNER AND OR CONTRACTOR SHOULD INCLUDE ENOUGH MATERIALS IN THE CONTRACT TO FOR ADDITIONAL STABILIZED ENTRANCES NOT SHOWN IN THE INITIAL SWPPP. IT IS DIFFICULT TO DETERMINE EXACTLY WHERE ACCESS TO THESE WILL TAKE PLACE; ADDITIONAL MATERIALS WILL ENABLE THE CONTRACTOR TO INSTALL THEM WHERE NEEDED.

ALLOW CONSTRUCTION PROJECTS

DESIGN AND INSTALLATION:

SEE FIGURE 7.3.2 OF THE EASTERN WATER STORMWATER MANAGEMENT MANUAL OR DETAIL BELOW.

THE SURFACE MATERIAL SHALL BE 4"-8" QUARRY SPALLS. SMALLER CRUSHED ROCK SUCH AS BASE COURSE MAY BE APPROPRIATE IN SOME SITUATIONS BUT, SINCE IT IS MORE LIKELY TO BE TRACKED OFF-SITE, MUST BE APPROVED BY THE LOCAL JURISDICTION.

A SEPARATION GEOTEXTILE SHALL BE PLACED UNDER THE SPALLS TO PREVENT FINE SEDIMENT FROM PUMPING UP INTO THE ROCK PAD. THE GEOTEXTILE SHALL MEET THE FOLLOWING STANDARDS:

| | |
|---|---|
| GRAB TENSILE STRENGTH (ASTM D4751) | 200 PSI MIN. |
| GRAB TENSILE ELONGATION (ASTM D4632) | 30% MAX. |
| MULLEN BURST STRENGTH (ASTM D3786-80A) | 400 PSI MIN. |
| AOS (ASTM D4751) | 20-45 (U.S. STANDARD SIEVE SIZE) |

IF SITE CONDITIONS DO NOT WARRANT THE USE OF GEOTEXTILE, IT IS NOT REQUIRED.

MAINTENANCE STANDARDS:

IF QUARRY SPALLS (OR HOG FUEL) SHALL BE ADDED IF THE PAD IS NO LONGER IN ACCORDANCE WITH THE SPECIFICATIONS.

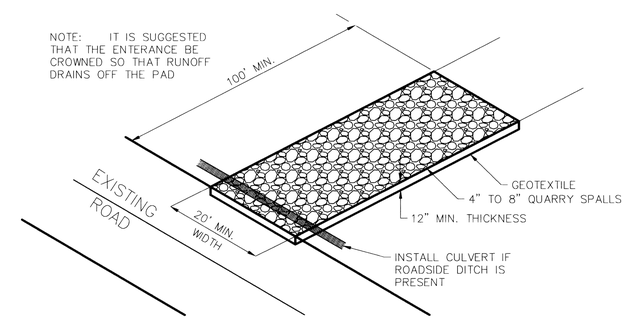
IF THE ENTRANCE IS NOT PREVENTING SEDIMENT FROM BEING TRACKED ONTO PAVEMENT, THEN ALTERNATIVE MEASURES TO KEEP THE STREETS FREE OF SEDIMENT SHALL BE USED. THIS MAY INCLUDE STREET SWEEPING, AN INCREASE IN THE DIMENSIONS OF THE ENTRANCE, OR THE INSTALLATION OF A WHEEL WASH.

ANY SEDIMENT THAT IS TRACKED ONTO PAVEMENT SHALL BE REMOVED BY SHOVELING OR STREET SWEEPING. THE SEDIMENT COLLECTED BY SWEEPING SHALL BE REMOVED RO STABILIZED ON SITE. THE PAVEMENT SHALL NOT BE CLEANED BY WASHING DOWN THE STREET, EXCEPT WHEN SWEEPING IS INEFFECTIVE AND THERE IS A THREAT TO PUBLIC SAFETY. IF IT IS NECESSARY TO WASH THE STREETS. THE CONSTRUCTION OF A SMALL SUMP SHALL BE CONSIDERED. THE SEDIMENT WOULD THEN BE WASHED INTO THE SUMP WHERE IT CAN BE CONTROLLED.

ANY QUARRY SPALLS THAT ARE LOOSENED FROM THE PAD, WHICH END UP ON THE ROADWAY SHALL BE REMOVED IMMEDIATELY.

IF VEHICLES ARE ENTERING OR EXITING THE SITE AT POINTS OTHER THAN THE CONSTRUCTION ENTERANCE(S), FENCING (SEE BMPS C103 AND C104) SHALL BE INSTALLED TO CONTROL TRAFFIC.

UPON PROJECT COMPLETION AND SITE STABILIZATION, ALL CONSTRUCTION ACCESSES INTENDED AS PERMANENT ACCESS FOR MAINTENANCE SHALL BE PERMANENTLY STABILIZED.




## ROCK CONSTRUCTION ENTRY

NOT TO SCALE

2 / -

SPOKANE COUNTY PUBLIC WORKS
OFFICIAL PUBLIC DOCUMENT ORIGINAL
CONSTRUCTION PLANS
PROJECT #: P-7353A
DATE ACCEPTED: 08-15-14
ACCEPTANCE EXPIRES: 08-15-16
PROJECTS LANE MILES: PUBLIC:
PROJECT LANE MILES PRIVATE: .15
CONSTRUCTION DOCUMENTATION AND CERTIFIED RECORD DRAWINGS, "AS-BUILTS" ARE REQUIRED PRIOR TO COUNTY ACCEPTANCE AND ESTABLISHMENT OF THE ROADS AND DRAINAGE FACILITIES FOR MAINTENANCE
PERMIT REQUIRED! (509) 477-3600
NOTIFY PERMIT ENGINEER 2 BUSINESS DAYS PRIOR TO CONSTRUCTION

TODD R. WHIPPLE STATE OF WASHINGTON 25462 REGISTERED PROFESSIONAL ENGINEER
8/14/14

NAVD - 88
VERTICAL DATUM BASED ON FOUND TEMPORARY BENCH MAKR LOCATED AT (GENERAL LOCATION) 3.4 MILES NORTH OF THE JUNCTION OF SR 395 AND SR 002 TBM - (WSDOT BRASS DISK IN CONC. #GP32395-202 & 523.24 M - NAVD88 (CALCULATED 1716.67 FT).

| NO. | DATE | BY | REVISIONS |
|---|---|---|---|
| - | 07/21/14 | BNG | ORIGINAL PREPARATION |

SCALE:
HORIZONTAL: -
VERTICAL: -

PROJ #: 04-063F
DATE: 08/05/14
DRAWN: BNG
REVIEWED: TRW

X CIVIL
STRUCTURAL
SURVEYING
TRAFFIC
PLANNING
LANDSCAPE
OTHER

WCE
WHIPPLE CONSULTING ENGINEERS
2528 NORTH SULLIVAN ROAD
SPOKANE VALLEY, WA 99216
PH: 509-893-2617 FAX: 509-926-0227

WINDSOR ESTATES PHASE 2B.1
SWPPP BMP'S
HATCH ROAD & SILVER PINE ROAD
SPOKANE COUNTY, WASHINGTON

SHEET 9.2

JOB NUMBER 2004-063F

W:\WORK\Land Projects 2005\04-63F Windsor Ph 2B\DWG\9.2 SWPPP NOTES.dwg, DESIGN, 8/14/2014 10:34:23 AM

## BMP C220: STORM DRAIN INLET PROTECTION

NE$\frac{1}{4}$, SEC.29, T.27N., R.43E., W.M.

UNDERGROUND SERVICE ALERT
ONE-CALL NUMBER
811
CALL TWO BUSINESS DAYS BEFORE YOU DIG

PURPOSE: TO PREVENT COARSE SEDIMENT FROM ENTERING DRAINAGE SYSTEMS PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREA

CONDITIONS OF USE: WHERE STORM DRAIN INLETS ARE TO BE MADE OPERATIONAL BEFORE PERMANENT STABILIZATION OF THE DISTURBED DRAINAGE AREA. PROTECTION SHOULD BE PROVIDED FOR ALL STORM DRAIN INLETS DOWNSLOPE AND WITHIN 500 FEET OF A DISTURBED OR CONSTRUCTION AREA, UNLESS THE RUNOFF THAT ENTERS THE CATCH BASIN WILL BE CONVEYED TO A SEDIMENT POND OR TRAP. INLET PROTECTION MAY BE USED ANYWHERE TO PROTECT THE DRAINAGE SYSTEM. IT IS LIKELY THAT THE DRAINAGE SYSTEM WILL REQUIRE CLEANING.

TABLE 7.3.9 (IN THE EASTERN WASHINGTON STORMWATER MANAGEMENT MANUAL) LISTS SEVERAL OPTIONS FOR INLET PROTECTION. ALL OF THE METHODS FOR STORM DRAIN INLET PROTECTION ARE PRONE TO PLUGGING AND REQUIRE A HIGH FREQUENCY OF MAINTENANCE. DRAINAGE AREAS SHOULD BE LIMITED TO 1 ACRE OR LESS. EMERGENCY OVERFLOWS MAY BE REQUIRED WHERE STORMWATER PONDING WOULD CAUSE A HAZARD. IF AN EMERGENCY OVERFLOW IS PROVIDED, ADDITIONAL END-OF-PIPE TREATMENT MAY BE REQUIRED.

DESIGN AND INSTALLATION: EXCAVATED DROP INLET PROTECTION – AN EXCAVATED IMPOUNDMENT AROUND THE STORM DRAIN. SEDIMENT SETTLES OUT OF THE STORMWATER PRIOR TO ENTERING THE STORM DRAIN.

DEPTH 1–2 FT AS MEASURED FROM THE CREST OF THE INLET STRUCTURE.

SIDE SLOPES OF EXCAVATION NO STEEPER THAT 2:1

MINIMUM VOLUME OF EXCAVATION 35 CUBIC YARDS

SHAPE THE BASIN TO FIT THE SITE WITH THE LONGEST DIMENSION ORIENTED TOWARD THE LONGEST INFLOW AREA.

INSTALL PROVISIONS FOR DRAINING TO PREVENT STANDING WATER PROBLEMS.

CLEAR THE AREA OF ALL DEBRIS.

GRADE THE APPROACH TO THE INLET UNIFORMLY.

DRILL WEEP HOLES INTO THE SIDES OF THE INLET.

PROTECT WEEP HOLES WITH SCREEN WIRE AND WASHED AGGREGATE.

SEAL WEEP HOLES WHEN REMOVING STRUCTURE AND STABILIZING AREA.

IT MAY BE NECESSARY TO BUILD A TEMPORARY DIKE TO THE DOWN SLOPE STRUCTURE TO PREVENT BYPASS FLOW.

BLOCK AND GRAVEL FILTER – A BARRIER FORMED AROUND THE STORM DRAIN INLET WITH STANDARD CONCRETE BLOCKS AND GRAVEL. SEE FIGURE 4.15 IN THE EASTERN WASHINGTON STORMWATER MANAGEMENT MANUAL.

HEIGHT 1–2 FT ABOVE THE INLET.

RECESS THE FIRST ROW 2" INTO THE GROUND FOR STABILITY.

SUPPORT SUBSEQUENT COURSES BY PLACING A 2X4 THROUGH THE BLOCK OPENING.

DO NOT USE MORTAR.

LAY SOME BLOCKS IN THE BOTTOM ROW ON THEIR SIDE FOR DEWATERING THE POOL.

PLACE HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2" OPENINGS OVER ALL BLOCK OPENINGS.

PLACE GRAVEL JUST BELOW THE TOP OF BLOCKS ON SLOPES 2:1 OR FLATTER.

AN ALTERNATIVE DESIGN IN A GRAVEL DONUT.

INLET SLOPE OF 3:1.

OUTLET SLOPE OF 2:1.

1–FOOT WIDE LEVEL STONE AREA BETWEEN THE STRUCTURE AND THE INLET.

INLET SLOPES STONES 3" IN DIAMETER OR LARGER.

OUTLET SLOPE USE GRAVEL 1/2" TO 3/4" AT A MINIMUM THICKNESS OF 1 FOOT.

GRAVEL AND WIRE MESH INLET – A GRAVEL BARRIER PLACED OVER TOP OF THE INLET. THIS STRUCTURE DOES NOT PROVIDE AND OVERFLOW

HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 1/2" OPENINGS.

COARSE AGGREGATE.

HEIGHT 1–FOOT OR MORE, 18" WIDER THAN INLET ON ALL SIDES.

PLACE WIRE MESS OVER THE DROP INLET SO THAT THE WIRE EXTENDS A MINIMUM OF 1–FOOT BEYOND EACH SIDE OF THE INLET STRUCTURE,

IF MORE THAN ONE STRIP OF MESH IN NECESSARY, OVERLAP THE STRIPS.

PLACE COARSE AGGREGATE OVER THE WIRE MESH.

THE DEPTH OF THE GRAVEL SHOULD BE AT LEAST 12" OVER THE ENTIRE INLET OPENING AND EXTEND AT LEAST 18" ON ALL SIDES.

DESIGN AND INSTALLATION: CONTINUED

CATCH BASIN FILTERS – INSERTS SHOULD BE DESIGNED BY THE MANUFACTURER FOR USE AT CONSTRUCTION SITES. THE LIMITED SEDIMENT STORAGE CAPACITY INCREASES THE AMOUNT OF INSPECTION AND MAINTENANCE REQUIRED, WHICH MAY BE DAILY FOR HEAVY SEDIMENT LOADS, THE MAINTENANCE REQUIREMENTS CAB BE REDUCED BY COMBINING A CATCH BASIN FILTER WITH ANOTHER TYPE OF INLET PROTECTION. THIS TYPE OF INLET PROTECTION PROVIDES FLOW BYPASS WITHOUT OVERFLOW AND THEREFORE MAY BE A BETTER METHOD FOR INLETS LOCATED ALONG ACTIVE RIGHTS–OF–WAY.

5 CUBIC FEET OF STORAGE

DEWATERING PROVISIONS

HIGH–FLOW BYPASS THAT WILL NOT CLOG UNDER NORMAL USE AT A CONSTRUCTION SITE.

THE CATCH BASIN FILTER IS INSERTED IN THE CATCH BASIN JUST BELOW THE GRATING.

CURB INLET PROTECTION WITH WOODED WEIR – BARRIER FORMED AROUND CURB INLET WITH A WOODEN FRAME AND GRAVEL.

WIRE MESH WITH 1/2" OPENINGS.

EXTRA STRENGTH FILTER FABRIC TO THE FRAME.

PILE COARSE WASHED AGGREGATE AGAINST THE WIRE/FABRIC.

PLACE WEIGHT ON FRAME ANCHORS.

BLOCK AND GRAVEL CURB INLET PROTECTION – BARRIER FORMED AROUND AN INLET WITH CONCRETE BLOCKS AND GRAVEL. SEE FIGURE 7.3.16 OF THE EASTERN WASHINGTON STORMWATER MANAGEMENT MANUAL.

WIRE MESH WITH 1/2" OPENINGS.

PLACE 2 CONCRETE BLOCKS ON THEIR SIDES ABUTTING THE CURB AT EITHER SIDE OF THE INLET OPENING. THESE ARE SPACER BLOCKS.

PLACE A 2X4 STUD THROUGH THE OUT HOLES OF EACH SPACER BLOCK TO ALIGN THE FRONT BLOCKS.

PLACE BLOCKS ON THEIR SIDES ACROSS THE FRONT OF THE INLET AND ABUTTING THE SPACER BLOCKS.

PLACE WIRE MESH OVER THE OUTSIDE VERTICAL FACE.

PILE COARSE AGGREGATE AGAINST THE WIRE TO THE TOP OF THE BARRIER.

CURB AND GUTTER SEDIMENT BARRIER – SANDBAG OR ROCK BERM (RIPRAP AND AGGREGATE) 3 FEET HIGH AND 3 FEET WIDE IN A HORSESHOE SHAPE. SEE FIGURE 7.3.17 OF THE EASTERN WASHINGTON STORMWATER MANAGEMENT MANUAL.

CONSTRUCT HORSESHOE SHAPED BERM, FACED WITH COARSE AGGREGATE IF USING RIPRAP, 3 FEET HIGH AND 3 FEET WIDE, AT LEAST 2 FEET FROM THE INLET.

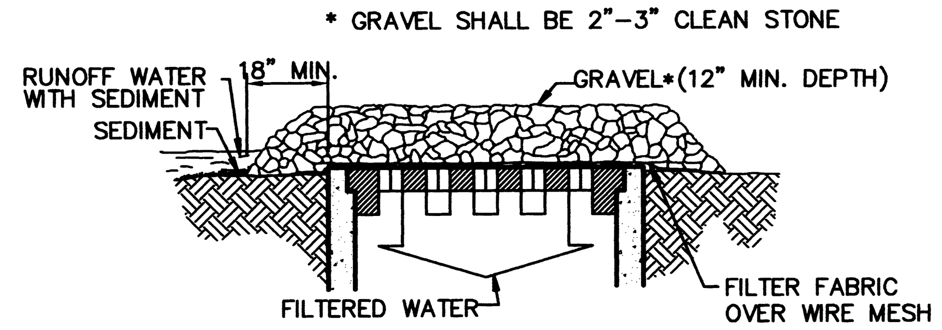
CONSTRUCT A HORSESHOE SHAPED SEDIMENTATION TRAP ON THE OUTSIDE OF THE BERM SIZED TO SEDIMENT TRAP STANDARDS FOR PROTECTING A CULVERT INLET.

MAINTENANCE STANDARDS: CATCH BASIN FILTERS SHOULD BE INSPECTED FREQUENTLY, ESPECIALLY AFTER STORM EVENTS. IF THE INSERT BECOMES CLOGGED, IT SHOULD BE CLEANED OR REPLACED.

FOR SYSTEMS USING STONE FILTERS: IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT, THE STONES MUST BE PULLED AWAY FROM THE INLET AND CLEANED OR REPLACED. SINCE CLEANING OF GRAVEL AT A CONSTRUCTION SITE MAY BE DIFFICULT, AN ALTERNATIVE APPROACH WOULD BE USED TO USE THE CLOGGED STONES FILL AND PUT FRESH STONE AROUND THE INLET.

DO NOT WASH SEDIMENT INTO STORM DRAINS WHILE CLEANING. SPREAD ALL EXCAVATED MATERIAL EVENLY OVER THE SURROUNDING LAND AREA OR STOCKPILE AND STABILIZE AS APPROPRIATE.

* GRAVEL SHALL BE 2"–3" CLEAN STONE




SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED ACRES.

### GRAVEL AND WIRE MESH INLET SEDIMENT FILTER

NOT TO SCALE

3 / -

## BMP C151: CONCRETE HANDLING

INFORMATION TAKEN FROM CHAPTER 7 OF THE EASTERN WASHINGTON STORMWATER MANAGEMENT MANUAL 2004 EDITION

PURPOSE: CONCRETE WORK CAN GENERATE PROCESS WATER AND SLURRY THAT CONTAIN FINE PARTICLES AND HIGH PH, BOTH OF WHICH CAN VIOLATE WATER QUALITY STANDARDS IN THE RECEIVING WATER. THIS BMP IS INTENDED TO MINIMIZE AND ELIMINATE CONCRETE PROCESS WATER AND SLURRY FROM ENTERING WATERS OF THE STATE.

CONDITIONS OF USE: ANY TIME CONCRETE IS USED, THESE MANAGEMENT PRACTICES SHALL BE UTILIZED. CONCRETE CONSTRUCTION PROJECTS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

- CURBS
- SIDEWALKS
- ROADS
- BRIDGES
- FOUNDATIONS
- FLOORS
- RUNWAYS

DESIGN AND INSTALLATION: CONCRETE TRUCK CHUTES, PUMPS, AND INTERNALS SHALL BE WASHED OUT ONLY INTO FORMED AREAS AWAITING INSTALLATION OF CONCRETE OR ASPHALT.

UNUSED CONCRETE REMAINING IN THE TRUCK AND PUMP SHALL BE RETURNED TO THE ORIGINATING BATCH PLANT FOR RECYCLING.

HAND TOOLS INCLUDING, BUT NOT LIMITED TO, SCREEDS, SHOVELS, RAKES, FLOATS, AND TROWELS SHALL BE WASHED OFF ONLY INTO FORMED AREAS AWAITING INSTALLATION OF CONCRETE OR ASPHALT.

EQUIPMENT THAT CANNOT BE EASILY MOVED, SUCH AS CONCRETE PAVERS, SHALL ONLY BE WASHED IN AREAS THAT DO NOT DIRECTLY DRAIN TO NATURAL OR CONSTRUCTED STORMWATER CONVEYANCES.

WASHDOWN FROM AREAS SUCH AS CONCRETE AGGREGATE DRIVEWAYS SHALL NOT DRAIN DIRECTLY TO NATURAL OR CONSTRUCTED STORMWATER CONVEYANCES.

WHEN NO FORMED AREAS ARE AVAILABLE, WASHWATER AND LEFTOVER PRODUCT SHALL BE CONTAINED IN A LINED CONTAINER. CONTAINED CONCRETE SHALL BE DISPOSED OF IN A MANNER THAT DOES NOT VIOLATE GROUNDWATER OR SURFACE WATER QUALITY STANDARDS.

MAINTENANCE STANDARDS: CONTAINERS SHALL BE CHECKED FOR HOLES IN THE LINER DAILY DURING CONCRETE POURS AND REPAIRED THE SAME DAY.

### CONCRETE TRUCK WASHOUT STANDARDS

NOT TO SCALE

4 / -

## BMP C140: DUST CONTROL

INFORMATION TAKEN FROM CHAPTER 7 OF THE EASTERN WASHINGTON STORMWATER MANAGEMENT MANUAL 2004 EDITION

PURPOSE: DUST CONTROL PREVENTS WIND TRANSPORT OF DUST FROM DISTURBED SOIL SURFACES ONTO ROADWAYS, DRAINAGE WAYS, AND SURFACE WATERS. WIND EROSION IS A SIGNIFICANT CAUSE OF SOIL MOVEMENT FROM CONSTRUCTION SITES IN EASTERN WASHINGTON. ALTHOUGH WIND EROSION CAN CONTRIBUTE TO WATER QUALITY IMPACTS, DUST CONTROL IS REGULATED IN SOME AREAS OF EASTERN WASHINGTON PRIMARILY THROUGH LOCAL AIR QUALITY AUTHORITIES. WHERE SUCH AN ENTITY EXISTS, CONTACT THE LOCAL AIR QUALITY AUTHORITY FOR APPROPRIATE AND REQUIRED BMPS FOR DUST CONTROL TO IMPLEMENT AT YOUR PROJECT SITE.

CONDITIONS OF USE: IN AREAS (INCLUDING ROADWAYS) SUBJECT TO SURFACE AND AIR MOVEMENT OF DUST WHERE ON–SITE AND OFF–SITE IMPACTS TO ROADWAYS, DRAINAGE WAYS, OR SURFACE WATERS ARE LIKELY.

DESIGN AND INSTALLATION: CONTACT YOUR LOCAL AIR POLLUTION CONTROL AUTHORITY FOR GUIDANCE AND TRAINING ON OTHER DUST CONTROL MEASURES. COMPLIANCE WITH THE LOCAL AIR POLLUTION CONTROL AUTHORITY CONSTITUTES COMPLIANCE WITH THIS BMP.

WATER APPLIED TO CONSTRUCTION SITES FOR DUST CONTROL MUST NOT LEAVE THE SITE AS SURFACE RUNOFF.

SEE ALSO "TECHNIQUES FOR DUST PREVENTION AND SUPPRESSION," ECOLOGY PUBLICATION NUMBER 96–433, REVISED APRIL 2002.

TECHNIQUES THAT CAN BE USED FOR CONSTRUCTION PROJECTS INCLUDE:

VEGETATE OR MULCH AREAS THAT WILL NOT RECEIVE VEHICLE TRAFFIC. IN AREAS WHERE PLANTING, MULCHING, OR PAVING IS IMPRACTICAL, APPLY GRAVEL OR LANDSCAPING ROCK.

LIMIT DUST GENERATION BY CLEARING ONLY THOSE AREAS WHERE IMMEDIATE ACTIVITY WILL TAKE PLACE, LEAVING THE REMAINDER AREA(S) IN THE ORIGINAL CONDITION, IF STABLE. MAINTAIN THE ORIGINAL GROUND COVER AS LONG AS PRACTICAL.

CONSTRUCT NATURAL OR ARTIFICIAL WINDBREAKS OR WINDSCREENS. THESE MAY BE DESIGNED AS ENCLOSURES FOR SMALL DUST SOURCES.

SPRINKLE THE SITE WITH WATER UNTIL THE SURFACE IS WET. REPEAT AS NEEDED. TO PREVENT CARRYOUT OF MUD ONTO STREET, REFER TO STABILIZED CONSTRUCTION ENTRANCE (BMP C105).

IRRIGATION WATER CAN BE USED FOR DUST CONTROL. IRRIGATION SYSTEMS SHOULD BE INSTALLED AS A FIRST STEP ON SITES WHERE DUST CONTROL IS A CONCERN.

SPRAY EXPOSED SOIL AREAS WITH A DUST PALLIATIVE, FOLLOWING THE MANUFACTURER'S INSTRUCTIONS AND CAUTIONS REGARDING ANDLING AND APPLICATION. USED OIL IS PROHIBITED FROM USE AS A DUST SUPPRESSANT. LOCAL GOVERNMENTS MAY APPROVE OTHER DUST PALLIATIVES SUCH AS CALCIUM CHLORIDE OR PAM.

PAM (BMPC126) ADDED TO WATER AT A RATE OF 0.5 LBS PER 1,000 GALLONS OF WATER PER ACRE AND APPLIED FROM A WATER TRUCK IS MORE EFFECTIVE THAT WATER ALONE. THE IS DUE TO THE INCREASED INFILTRATION OF WATER INTO THE SOIL AND REDUCED EVAPORATION. IN ADDITION, SMALL SOIL PARTICLES ARE BONDED TOGETHER AND ARE NOT AS EASILY TRANSPORTED BY WIND. ADDING PAM MAY ACTUALLY REDUCE THE QUANTITY OF WATER NEEDED FOR DUST CONTROL, ESPECIALLY IN EASTERN WASHINGTON. SINCE THE WHOLESALE COST OF PAM IS ABOUT $4.00 PER POUND, THIS IS AN EXTREMELY COST–EFFECTIVE DUST CONTROL METHOD.

TECHNIQUES THAT CAN BE USED FOR UNPAVED ROADS AND LOTS INCLUDE:

LOWER SPEED LIMITS. HIGH VEHICLE SPEEDS INCREASES THE AMOUNT OF DUST STIRRED UP FROM UNPAVED ROADS AND LOTS.

UPGRADE ROAD SURFACE STRENGTH BY IMPROVING PARTICLE SIZE, SHAPE, AND MINERAL TYPES THAT MAKE UP THE SURFACE AND BASE MATERIALS.

ADD SURFACE GRAVEL TO REDUCE THE SOURCE OF DUST EMISSION. LIMIT THE AMOUNT OF FINE PARTICLES (THOSE SMALLER THAN .075 MILLIMETERS) 10 TO 20 PERCENT.

USE GEOTEXTILE FABRIC TO INCREASE THE STRENGTH OF NEW ROADS OR ROADS UNDERGOING RECONSTRUCTION.

ENCOURAGE THE USE OF ALTERNATE, PAVED ROUTES, IF AVAILABLE.

RESTRICT USE BY TRACKED VEHICLES AND HEAVY TRUCKS TO PREVENT DAMAGE TO ROAD SURFACE AND BASE.

APPLY CHEMICAL DUST SUPPRESSANTS USING THE ADMIX METHOD, BLENDING THE PRODUCT WITH THE TOP FEW INCHES OF MATERIAL. SUPPRESSANTS MAY ALSO BE APPLIED AS SURFACE TREATMENTS.

PAVE UNPAVED PERMANENT ROADS AND OTHER TRAFFICKED AREAS.

USE VACUUM STREET SWEEPERS.

REMOVED MUD AND OTHER DIRT PROMPTLY SO IT DOES NOT DRY AND THEN TURN INTO DUST.

LIMIT DUST–CAUSEING WORK ON WINDY DAYS.

MAINTENANCE STANDARDS: REPAY AREA AS NECESSARY TO KEEP DUST TO A MINIMUM. WATER APPLIED TO CONSTRUCTION SITES FOR DUST CONTROL MUST NOT LEAVE THE SITE AS SURFACE RUNOFF.

SPOKANE COUNTY PUBLIC WORKS
OFFICIAL PUBLIC DOCUMENT ORIGINAL
CONSTRUCTION PLANS
PROJECT #: P-1953A
DATE ACCEPTED: 08-15-14
ACCEPTANCE EXPIRES: 08-15-16
PROJECTS LANE MILES: PUBLIC:
PROJECT LANE MILES PRIVATE: .15
CONSTRUCTION DOCUMENTATION AND CERTIFIED RECORD DRAWINGS, "AS–BUILTS" ARE REQUIRED PRIOR TO COUNTY ACCEPTANCE AND ESTABLISHMENT OF THE ROADS AND DRAINAGE FACILITIES FOR MAINTENANCE PERMIT REQUIRED! (509) 477–3600
NOTIFY PERMIT ENGINEER 2 BUSINESS DAYS PRIOR TO CONSTRUCTION

TODD R. WHIPPLE — STATE OF WASHINGTON — 25462 — REGISTERED PROFESSIONAL ENGINEER — 8/14/14

NAVD - 88
VERTICAL DATUM BASED ON FOUND TEMPORARY BENCH MAKR LOCATED AT (GENERAL LOCATION) 3.4 MILES NORTH OF THE JUNCTION OF SR 395 AND SR 002
TBM - (WSDOT BRASS DISK IN CONC. #GP32395-202 & 523.24 M - NAVD88 (CALCULATED 1716.67 FT).

| NO. | DATE | BY | REVISIONS |
|---|---|---|---|
| - | 07/21/14 | BNG | ORIGINAL PREPARATION |

| SCALE: | |
|---|---|
| HORIZONTAL: | - |
| VERTICAL: | - |

| | |
|---|---|
| PROJ #: | 04-063F |
| DATE: | 08/05/14 |
| DRAWN: | BNG |
| REVIEWED: | TRW |

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| X | CIVIL |
| | STRUCTURAL |
| | SURVEYING |
| | TRAFFIC |
| | PLANNING |
| | LANDSCAPE |
| | OTHER |

WCE
WHIPPLE CONSULTING ENGINEERS
2528 NORTH SULLIVAN ROAD
SPOKANE VALLEY, WA 99216
PH: 509-893-2617 FAX: 509-926-0227

**WINDSOR ESTATES PHASE 2B.1**
**SWPPP BMP'S**
**HATCH ROAD & SILVER PINE ROAD**
**SPOKANE COUNTY, WASHINGTON**

SHEET 9.3
JOB NUMBER 2004-063F

WORK\Land Projects 2005\04-63F Windsor Ph 2B\DWG\C9.3 SWPPP BMP'S.dwg, DESIGN, 8/14/2014 10:35:06 AM